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THE

CHICAGO MEDICAL Journal and Examiner

5041

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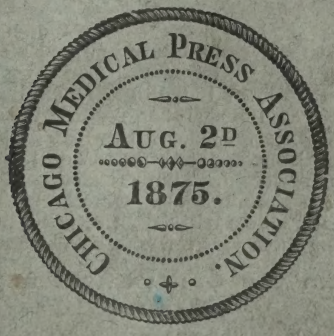

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THE

Chicago Medical Journal

AND

EXAMINER.

VOL. XXXVII.—AUGUST, 1878.—No. 2.

To our Readers and Correspondents.

Beginning with Vol. XXXVII., July, 1878, the CHICAGO MEDICAL JOURNAL AND EXAMINER prints all records of length and weight in terms of the Metric System, and all records of temperature in degrees of the Centigrade Scale. The Metric System, legalized in the United States and Great Britain, is extensively or exclusively employed by other civilized nations, and has thus become an essential part of the international language of science. It is recommended for adoption to the profession in this country by the American Medical Association and other scientific bodies. To-day no physician can afford to be ignorant of its value, its simplicity and the meaning of its terms.

The subjoined tables and scales, which have been kindly prepared for us by Prof. W. S. Haines, will be continuously reproduced in subsequent numbers of this journal, for the ready reference of our readers and correspondents.

Metric Measures of Length.

Millimeter	0.001 of a Meter	0.03937	inches.
Centimeter	0.01 " "	0.39370	"
Decimeter	0.1 " "	3.93707	"
Meter	**1.**	**Meter**	**39.37079** "
Decameter	10.	Meters	393.70790 "
Hectometer	100.	"	3937.07900 "
Kilometer	1000.	"	39370.79000 "

Metrical Weights.

Milligram	0.001 of a Gram	0.015	grains.
Centigram	0.01 " "	0.154	"
Decigram	0.1 " "	1.543	"
Gram	**1.**	**Gram**	**15.432** "
Decagram	10.	Grams	154.323 "
Hectogram	100.	"	1543.234 "
Kilogram	1000.	"	15434.348 "

☞ The United States "nickel" five cent piece weighs five grams, and is two centimeters in diameter.

Approximate Equivalent of Metrical Weights.

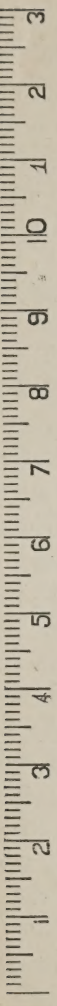
For Rapid Reference.

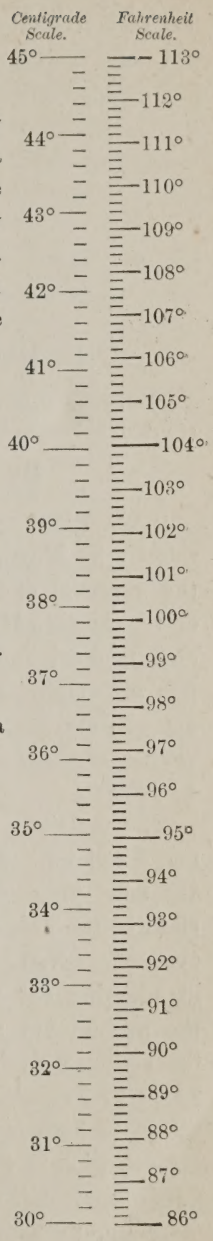
Milligrams.	*Grains.*	*Decigrams.*	*Grains.*
1 (written 0.001 or |001)*..	1/65	1 (written 0.1 or |1).....	1 1/2
2	1/32	2	3
3	1/22	3	4 1/2
4	1/16	4	6
5	1/13	5	7 1/2
6	1/11	6	9
7	1/9	7	11
8	1/8	8	12 1/2
9	1/7	9	14

Centigrams.	*Grains.*	*Grams.*	*Grains.*
1 (written 0.01 or |01).....	1/6	1 (written 1. or |1).....	15
2	1/3	2	30
3	6/13	3	46
4	7/11	4	61
5	3/4	5	77
6	9/10	6	92
7	1	7	108
8	1 1/4	8	123
9	1 1/3	9	139

A Kilogram=2 1/5 lbs. Avoirdupois.

* The decimal *line* instead of points makes errors impossible.





Metric Fluid Measures.

In prescription writing, fluids are usually measured in Cubic Centimeters, that is, a volume represented by a cube all of whose sides measure one centimeter. An ordinary back-gammon die is usually about this size. One cubic centimeter (written 1 C. C.) = 16.231 minims. It is approximately regarded as one fourth of a fluid drachm.

Approximate Equivalents of Cubic Centimeter.

0.001	C. C. = ...	$^1/_{65}$	minim.
0.01	" = ...	$^1/_6$	"
0.1	" = ...	$1^1/_2$	"
1.	**C. C. = ...**	**15**	**minim.**
4.	" = ...	1	fluid drachm.
16.	" = ...	4	fluid drachms.
32.	" = ...	1	ounce.

1000 C. C. (usually known as a **Liter**) is a trifle more than one quart, wine measure.

The following prescription—

R: Potassii bromidi, ℥i.
Elixir aurantii, fl., ℥viij.
M.

Would, in metric terms, be written:

Potassic bromide, 32 Gm.
Orange elixir, 250 C. C.
Mix.

Or, in more finished decimal manner:

Potassic bromide, 30 Gm.
Orange elixir, 250 C. C.
Mix.

Selected.

THE METRIC SYSTEM IN A NUT-SHELL.

"Universality, Uniformity, Precision, Significance, Brevity and Completeness. A system of weights and measures born of philosophy rather than of chance."—*Charles Sumner.*

By Edward Wigglesworth, M. D.

"Washington, May 3.—Surgeon-General Woodworth, of the U. S. Marine Hosp. Service, has issued a circular, with the approval of Secretary Sherman, requiring medical officers of the Marine Hosp. Service to make use hereafter for all official, medical and pharmaceutical purposes, of the metric system of weights and measures, which had already, under the act of July 28, 1866, been adopted by this service for the purveying of medical supplies."—*Boston Daily Advertiser, May* 4, 1878.

The metric system is already *legalized* in both America and England. The only question now is, which of the two, the most progressive or the most conservative nation on earth, shall be the first to definitely and finally adopt it as an *exclusive* system? [N.B.—England was 400 years behind the continent in adopting our present arithmetic.] Russia has already taken the preliminary steps towards its final adoption. The rest of the civilized world long since made the system obligatory, in whole or in part, except that, in Sweden alone, its obligatory use is to date from a period in the future, 1889.

Now, what is this metric system? Metric, is from the Greek word "metron," a measure, spelled with Epsilon (e short) and, therefore, pronounced mĕt-ric.

The meter (measure) is, practically, a fixed quantity, namely,

the ten millionth part of the earth's quadrant from the Equator to the North Pole. With the meter everything can be *measured*, for it is itself the unit of length; a cube, the edge of which is the tenth of a meter, is the unit of capacity (liter) and the weight of a cube of rain water, at its extreme contraction, the edge of which cube is a hundreth of a meter, is the unit of weight (gram).

It is the gram alone which concerns physicians, for, in the metric system, *everything is best prescribed and dispensed by weight alone;* numbers upon a prescription paper being regarded by the pharmacist as representing grams, unless the contrary is expressly stated. The fractions are always decimal.

The table is easily learned. It consists of six words, as prefixes, whether we deal with grams, liters, or meters. These are: Deci for tenth, centi for hundreth, milli for thousandth; deka for ten, hekto for hundred, kilo for thousand. Having these few words, the terms of Troy, Avoirdupois, and Apothecaries' weight, and of liquid measure, may be relegated to the limbo of pounds sterling, shillings, four-pence-ha'pennies, and farthings. As we say, dime, cent, mill, so we say decigram, centigram, milligram. These prefixes are Latin, and *diminish* the value. Deka, hekto, and kilo are Greek and *increase* the value. The mnemonic is G I L D, *i. e.*, Greek increases, Latin decreases. Deka occurs in the English word decade; hekto in hecatomb; kilo in chiliad.

"Being accustomed to the words mill, cent and dime, we shall find the words 'milligram,' 'centigram,' and 'decigram' quite as simple and easy to pronounce as our words 'pennyweight-troy,' 'hundrethweight-avoirdupois,' 'scruple-apothecaries,' etc., notwithstanding the assertion to the contrary of those who grieve to give up the 'short and sharp Anglo-Saxon words, used in our present *familiar* old tables of weights and measures."

Practically, moreover, for physicians, the whole system is reduced to grams and centigrams, just as, in money, to dollars and cents. On the right side of the prescription paper draw a perpendicular line from top to bottom. This decimal *line* takes the place of all the decimal *points*, and obviates the possibility of mistakes. This is the way dollars and cents are separated on

business papers. Additional security is gained by writing the decimal fraction (centigrams) of half-size and raised above the line (of grams,) since it represents a numerator of which the denominator 100 is omitted. To make assurance doubly sure, "grams" may be written over the integer-column of figures, and, if wished, the word "decimals" over the decimal column.

Now, what is a gram, or rather, the values, metrically expressed, of our present awkward weights?

	Prussian.	Practical.	Precise.
Grain I =	0.06	0.06	0.065
℈ I =	1.25	1.25	1.29
ʒ I =	3.75	4.0	3.89
℥ I =	30.0	32.0	31.1

The "practical" table alone concerns us. The "Prussian" (by order of the Prussian Ministry, Aug. 29, 1867) is given merely to show that our table is even nearer the actual truth than one which has been proved by actual experience to answer every purpose. The values of the grain and scruple are a little too small. As they are used for powerful drugs this is an error in the right direction. The values of the drachm and ounce are a trifle too large, but the proportions and therefore the ratio of drug to vehicle are preserved.

A prescription written metrically is always proportionate, and whether the pharmacist uses pennyweights, pounds or tons; gills, pecks or chaldrons; pints, gallons or hogsheads, the ratios are preserved, and a teaspoon dose contains the same amount of medicine.

As regards administration, a teaspoon represents five grams, a tablespoon twenty grams; for a teaspoon holds one and one-third fluid drachms, a tablespoon a trifle more than four times as much.

In the metric system *everything is weighed*, thus obviating the difficulties of evaporation, refraction and adhesion, and obtaining more conveniently, more exact results. In our old "systemless system" some fluids were measured. How shall we obtain with weights, the desired bulks of fluids with varying weights? Must we learn the specific gravities of all fluids?

Not at all!

1. Fixed oils, honey, liquid acids and chloroform, must at present be prescribed in our old weights, not measures, according to the pharmacopœia. Here change old weights to metric ones.

2. Not enough chloroform or ether is included in any one prescription to admit of harm arising from the amount contained in a single dose, even were their weights regarded as the same with that of water. Moreover, it is not difficult to remember that ether weighs seven-tenths as much as water, chloroform twice as much as ether.

3. There remain infusions and tinctures, glycerines and syrups. These four are used in bulk as doses, or as solvents or vehicles. The former two may be regarded as identical in weight with water; the latter two as one-third heavier, and when prescribing these we need merely write, by weight, for four-thirds as much as we should write for were we prescribing water, and we obtain an equal bulk. The teaspoon or tablespoon dose will then contain the desired amount of the drugs employed.

Or, simplest of all, we can make any mixture up to any desired bulk by merely directing the druggist to use enough of the vehicle to bring the whole mixture up to the requisite weight for that bulk.

The Metric Bureau, 32 Hawley street, Boston, will furnish metric prescription-blanks to order, to druggists or physicians at four-fifths printer's rates, or any blank can be made sufficiently metric by a perpendicular line at the right, headed *grams*.

Treatment of Strangulated Hernia by Ergotine.—Two cases are reported where ergotine was used as a dernier resort before operating. The skin over the tumor was, in each case, washed with an alkaline solution, to facilitate absorption, and pure ergotine was then rubbed in over it every two hours, while it was at the same time exhibited internally. After a few hours the distressing symptoms were relieved, and the hernia either subsided or was easily reduced.—*Le Bordeaux Médical.*

Original Lectures.

THE FUNCTION OF THE SEMI-CIRCULAR CANALS.

A Lecture delivered at the Chicago Medical College.

By H. Gradle,

Lecturer on Physiology.

While studying the perception of sounds, we found in the cochlea an apparatus answering all requirements, which the theory of acoustics demands for the accomplishment of that purpose. There remains for consideration the other portion of the labyrinth—the utricle and semi-circular canals.

What rôle these structures play in the perception of sound, we are unable to say; neither reasoning from physical premises nor experimental data justify the assertion that they are at all necessary for hearing. In some animals, the cochlea as well as the semi-circular canals can be extirpated separately; while loss of the former results in total deafness, destruction of the latter does not impair audition perceptibly. Still, both the constant occurrence of the semi-circular canals throughout the vertebrate series and their peculiarly complicated structure, lead us to attribute to them some important duty.

With the exception of some of the lowest fishes, where only one (Myxinoids) or two (Petromyzon) rings are found, all vertebrate animals present the same general arrangement of the semi-circular canals. It is also remarkable to observe how little this apparatus varies in actual size amongst the different animals. Three hollow rings, or rather portions of three rings, are joined in such a manner as to communicate with a central hollow

receptacle—the utricle. In the higher animals, in which the inside of the petrous bone consists of spongy tissue, this tissue becomes compact in forming the walls of the labyrinth.

The three rings are arranged in such a manner, that their planes coincide with the three dimensions of space. We have thus one horizontal and two vertical canals. Of the latter, one corresponds to the sagittal plane of the head, and the other to the frontal plane. It seems, therefore, preferable to name the canals according to their position, instead of using the somewhat confusing anatomical nomenclature. The three canals communicate with the cavity of the utricle through five openings; the posterior end of the sagittal and the upper end of the frontal canal unite into one opening. Each canal presents a dilatation at one of its ends, the ampulla; this is situated in front on the horizontal and sagittal canals, below on the frontal canal. Within the bony walls we find an accurate cast, so to speak, of their form in the membranous labyrinth. The latter, however does not fill out the entire cavity enclosed by the bony walls, and is hence in contact with the bony wall at one spot only, leaving a free space between the remainder of its circumference and the lining periosteum. This space containing the so-called perilymph deserves to be considered as a lymphatic space, since Schwalbe proved its continuity with the subdural spaces. The membranous labyrinth may be described as consisting of three coats; an outer fibrous coat continuous with the periosteum, a middle hyaline tunic with villi-like projections into the interior, and lastly an internal lining of pavement epithelium. The epithelium, however, is altered in the ampullæ. In each ampulla we find a ridge, the crista auditiva, and a similar crest exists also in the utricle—the macula auditiva, which is lined with cylindrical epithelium instead of pavement cells. Between the cylinder cells there exist fusiform cells, evidently also of epithelial nature, each surmounted with a single hair, which hair passes as a central axis through the entire cell, and can be shown to be in continuity with a nerve fibre. This is probably the most positive instance of a nerve termination in epithelial cells, of which we are aware. The nerves in question are derived from the vestibular branch of the auditory nerve, which sends one twig to each ampulla, one to the macula, and

one to the sacculus. The interior of the membranous labyrinth contains the endolymph. The otoliths floating in this fluid are limited in their motions by a gelatinous matrix.

Mere anatomical considerations do not inform us of the possible uses of this apparatus; fortunately, however, it is open to experimentation. Some fifty years ago the first experimental results were described by Flourens in a manner not since excelled. The animal mainly employed by Flourens and subsequent observers, was the pigeon in which the semi-circular canals can be easily exposed and experimented upon.

After exposing the bone and removing the external plate, the canals are seen in the midst of the spongy tissue. Care must be taken to avoid hemorrhage from the vessels accompanying the canals; besides, there is danger of wounding the utricle and the aquæductus vestibuli. The latter, very large in this bird, was described by Schklarewsky as the "cavitas mesootica," containing a process of the cerebellum; but this has not been confirmed.

Let us follow the details of a well performed section of the horizontal canal. A mere wound of the bony wall is not followed by the characteristic symptoms which are due to section of the membranous canal. The latter is quite sensitive, its section giving rise to pain. After the operation the bird is seen to swing its head frequently in a horizontal direction, but this is not very noticeable unless the animal is excited. Gradually this tendency ceases. After the lapse of some weeks it is no longer observed.

Another noticeable result is the impairment of walk and flight. The animal does not move in a straight line, especially when frightened will it show movements of *manege*, turning in a circle *towards* the side of the operation. No paresis can be found, but the foot of the operated side is not as steady in its movement as the other. As a matter of difficult explanation, the impairment is sometimes more noticeable in flight, sometimes in walking. It diminishes, however, in the course of time.

When both horizontal canals are divided the result is considerably intensified. The swinging of the head, scarcely noticeable in the former case is now a prominent symptom. At the least excitation, often even without such, the animal will shake its head violently in the horizontal plane, usually slowly and with

wide excursion. But as the excitement increases, the movement often changes to a mere rapid oscillation. The shaking of the head occurs even after extirpation of the cerebral hemispheres; it is prevented, however, by deep narcosis. In the course of a few weeks these movements lose in intensity but they do not disappear as long as the bird survives, which, in some cases has been for many months.

A bilateral operation intensifies also the impairment of walking. On attempting to walk, the bird turns to one, or to the other side in such a manner as to prevent it from reaching its object and even escaping from its pursuer. Although the bird can use its wings, continuous flight has become impossible. When thrown up in the air it describes zigzag curves until it strikes against some object and falls to the ground. Time, however, will materially improve locomotion.

On dividing the vertical canals vomiting often occurs, otherwise the results are similar though not the same as after section of the horizontal canals. If the operation be done on one frontal canal, swinging of the head is at once observed. But the swinging is not in a horizontal direction, but obliquely, corresponding to the plane of the divided canal. Otherwise it resembles the swinging after section of one horizontal canal. The impairment of walk is also slightly different. There is a tendency to turn towards the operated side; besides, however, the animal is in danger of falling over—backwards if the frontal canal be divided —forwards when the operation occurred on the sagittal canal.

An operation on both sides is more indicative of the canals divided, than when it is limited to one side alone. The tendency to somersaults renders the animal more helpless than the movements of *manege* alone. The swinging of the head is always in the plane of the divided canals, with an apparent exception. Section of both sagittal canals, will result in a vertical up and down movement, as well as section of both frontal canals. In the pigeon, however, the vertical canals do not coincide exactly with the planes of the head, but are set at an angle of 20 to 30 degrees. Hence the two sagittal canals are not parallel, but divergent, and the same is true of the two frontal canals. Mechanically, therefore, the left frontal and the right sagittal

canals are really mates (and conversely), and this view is justified by the experiment. On dividing the frontal canal of one side, and the sagittal of the other, the swinging occurs in the oblique direction corresponding to their plane. Finally, on dividing the horizontal and vertical canals, the head describes a figure 8 in swinging, and the highest degree of incoordination is obtained.

We have thus described the constant results of a well-performed section of one or more canals, and you see them illustrated in the birds now before you. But these results are very easily complicated by the consequences of wounding of the utricle or aquæductus vestibuli. While in the former case, the animal, when undisturbed, will show no signs of the operation except the shaking of the head, the mutilation of the utricle or aquæduct betrays itself by an inability to maintain the balance under all conditions. The bird finds it necessary to use its head or beak for support in order to avoid falling. Every movement threatens to overthrow the dizzy animal; it performs a variety of the most incoordinate attempts to retain its equilibrium. As a rule, the pigeon must be fed; it cannot coordinate the movements of its head sufficiently to pick up its food. Nevertheless, the animal has lost none of its skill in cleaning itself; with its beak and its foot it can reach every part of its body with accuracy. The swinging of the head is very violent during this state, but no regular direction is maintained, as after a simple section. Usually the head is kept in a peculiar position, the occiput turned until it reaches almost to the ground, while the beak is turned upward and backward. This is not due to muscular paralysis; on the contrary, it is caused by a contracture, and hence an intense narcosis allows the head to return to its normal position. That this malposition of the head increases the unsteadiness of the animal, was shown by Goltz by suturing the head of normal pigeons to the breast, with the result of producing a similar want of balance. But Goltz claims too much when he tries to account for the incoordination by this contracture of the muscles of the neck. Section of the canals alone seldom gives rise to this contracture, although it does so occasionally after some time, and then quite suddenly. In such cases an extension of an inflammatory process to the cerebellum is usually found.

In mammals, section of the semi-circular canals is quite difficult, on account of their protected position. It has, however, been performed with success by Flourens in very young rabbits. The impairment in walking, the movements of *manege* and the tendency to turn over were met with as in pigeons. The swinging movements, however, pertained more to the muscles of the eye than the head. On the other hand, the experiment will also succeed in frogs. In this animal, the muscular incoordination is noticeable, but the swinging of the head or turning of the eyes is not observed.

Whatever animal be employed, the result of operations on the semi-circular canals is always an appearance of dizziness, which increases with the extent of the lesion. That the term "dizziness" is the proper one can be shown especially on pigeons with extended mutilations. The animal, tumbling with every step it attempts, and performing wild movements to retain its balance, is easily quieted by a gentle support, and all voluntary movements cease when the hand of the observer assists it in maintaining its balance. But the various phenomena will appear clearer to you after studying the appearances of dizziness in man.

A simple way to render yourself dizzy is to whirl around rapidly on one foot. The consequences of this rotation were described in detail over fifty years ago by Peorkinye. Recently, however, such experiments have been repeated with a greater show of accuracy by making use of disks rotated by machinery without jarring, on which the observer sits in a chair. I refer to the experiments performed by the physicist Mach, and independently of him by Mr. Crum Brown.

These observers found that with closed eyes, and on a smoothly running apparatus, rotation around a vertical axis is at once perceived. They could recognize besides the direction, rapidity and approximately the angular extent of the turning. A perfectly uniform rotation, however, soon ceases to be perceptible, and the observer believes himself at rest. But as soon now as the actual rotation ceases, a feeling of turning in the opposite direction is experienced. If the apparatus had been revolving from *left to right*, the observer, after the apparatus had come to a standstill, believes himself turning from *right to left;* and this impression

continues some time, according to the rapidity of the original rotation. That the perception of the rotation, as well as the after-impression, if we choose to call thus the imaginary rotation, is obtained through some sensory apparatus situated in the head, is shown by two observations. On the one hand, the delicacy with which we perceive the extent and rapidity of the passive rotation varies with the position of the head. Secondly, however, the direction of the apparent rotation changes also with movements of the head. If, while rotating from left to right, the head is inclined horizontally on the right shoulder, the after-impression on coming to rest will be an apparent movement from right to left, *i. e.*, in the direction from the forehead towards the chin of the head inclined laterally. If now the head is raised vertically to its ordinary position, the observer seems to tumble over forwards. In other words, the plane and direction of the apparent rotation have become altered in relation to the body but have not changed in relation to the head.

We can, furthermore, produce a feeling of rotation by passing a galvanic current through the head, and this result is obtained most readily by applying the poles to the mastoid fossæ. These points of application are evidently the most favorable for the passage of the current through the labyrinth and its nerves.

When an apparent or (as Crum Brown calls it) complementary rotation is observed after cessation of actual motion, no disagreeable dizziness is, as a rule, felt, unless the eyes be opened. In the latter case all external objects seem to have a motion in the opposite direction of the original rotation, *i. e.*, in the direction of the complementary rotation. This peculiar *vibratory* motion of external objects is the main cause of the dizziness. A similar dizziness can in fact be produced during absolute rest by moving the eyeball rapidly to and fro with the fingers, when the real motion of the eye (which, however, is not the result of voluntary contraction of the ocular muscles) is falsely interpreted as an apparent motion of external objects.

Motion of external objects, or in other words, their displacement in relation to our body, can be perceived in a two-fold manner, either by the motion of the retinal image or by the ocular movements necessary to retain the retinal image in its original

place. But to distinguish between real motion of external objects and passive motion of our own body is more than a mere visual impression, it is a matter of judgment. During passive rotation objects do not seem to change their place, at least at first. On observing a person revolving around his vertical axis peculiar ocular movements are noticeable. If he turns from left to right, his eyes are seen to turn at the same rate from right to left, so as to maintain their original direction. But the deviation to the left soon becomes excessive and with a sudden rapid jerk the eyes are turned towards the right. Again they wander towards the left as long as possible, when the former movement is repeated. In other words, the eyes are turned slowly against the direction of rotation, but rapidly in that direction. The image of the object gazed upon in the first place is thus retained in its original retinal position, until the eye performs the rapid movement in the direction of the rotation. The ocular movement requisite to maintain the original gaze is correctly interpreted as being necessitated by the bodily rotation. The displacement, however, which the retinal image suffers during the rapid turn in the direction of the bodily motion is ignored, as we habitually disregard all apparent motion of external bodies due to rapid ocular movements. The ocular movements therefore are *compensatory*, enabling us to recognize the real static condition of external objects.

If the passive rotation of the body continues, the ocular muscles become fatigued and the compensatory movements cease. The displacement of retinal images is now interpreted as real motion of external objects. The same result may be obtained at once by directing our eyes steadily towards the finger held immovably during the rotation of the body, when of course compensatory movements are also excluded, and objects seem to move in the opposite direction. The compensatory ocular movements, although recognized by our judgment are by no means voluntary; they occur during blindness as well as when the eyes are closed. In the latter case they may be felt through the closed lids.

When the actual rotation of the body has ceased and the apparent rotation in the opposite direction is observed, the play of the ocular movements is inverted. If the original motion of the

body was towards the right and the apparent rotation towards the left, the eyes are turned during this apparent rotation *slowly* towards the right and whirled *rapidly* to the left. Hence external objects seem to move in the direction of the apparent rotation. Ocular movements of this nature occur also during the feeling of apparent rotation caused by the passage of the galvanic current.

Besides the ocular movements compensatory activity of the muscles of the trunk and limbs is also observed during apparent rotation. If the body is not supported when real rotation ceases, the danger of falling in the direction of the apparent rotation is imminent; the floor seems to cave in, and to guard against this, muscular efforts are made to restore the bodily equilibrium. Exactly this condition is witnessed also when the head is galvanized.

The compensatory movements of the limbs as well as the eyes are in neither case voluntary, but purely reflex in their nature.

In animals, also, compensatory movements occur during rotation, actual and apparent. In the rabbit the movements are mostly ocular, although the muscles of the neck are also called into requisition; but where the mobility of the eye is so limited, as in pigeons, the compensatory movements consist only in deviations of the head. While holding this pigeon with its head forward I shall turn around from left to right. You can notice how its head deviates towards its left side, until it is suddenly jerked to its extreme right, when it again wanders toward the left. What we accomplish by ocular movements the bird obtains through the free mobility of its neck. When the real rotation ceases, an apparent rotation is evidently felt by the animal, but with this slow motion its objective signs are scarcely perceptible. If, however, the animal is whirled around by machinery, its dizziness betrays itself by the very same phenomena as those *which are seen after section of the semi-circular canals.* The pigeon shakes its head laterally, obliquely or vertically, according to the axis, around which it was whirled, and turns around rapidly to one or the other side; the rabbit presents the characteristic oscillations of its eyes, while performing exquisite movements of *manege* or rolling over in somersaults according to the direction of the original motion. *In fact as long as the dizziness persists, the animals cannot be distinguished from the victims of section of*

some of the semi-circular canals. We have called these compensatory movements reflex and the proof can be furnished that one of their starting points is in the labyrinth. If the eyes of a normal pigeon are covered with a cap, the compensatory movements still continue during passive revolution. If, however, the canals and vestibule are extirpated on both sides, no further movements will occur during rotation, when the eyes are closed. (Breuer.) As long as the eyes are open, however, the movements are excited by sight. The importance of the labyrinth is further shown by the results of section of the auditory nerve, or since this is difficult, by extirpation of the vestibule and canals. The ability to maintain the bodily equilibrium is completely destroyed by this operation. On the other hand, excitation of one auditory nerve produces violent ocular movements and bodily rotation in the direction towards the opposite side. (Cyon.)

Pathological accidents present us occasionally with a similar condition in man. We owe to Menière the first description of a state of dizziness, increased by every movement, and attended with involuntary compensatory efforts, which is due to lesions of the semi-circular canals. Often, however, no lesion is found in these structures, but in other parts of the ear. But a mere strong contraction of the tensor tympani muscle will suffice to press the stapes against the oval window, and thus increase the intra-labyrinthine pressure, and necessarily irritate the nerve terminations. The dizziness sometimes caused by washing out the external meatus is probably due to a reflex contraction of this muscle.

Summing up our evidence, we can therefore state that:

1. We are able to perceive the direction, rapidity and angular extent of a passive rotation.

2. The organ for this perception is situated in the head.

3. Reflex compensatory movements of eyes (and other muscles) occur during a passive rotation, for the purpose of maintaining the equilibrium of the body and the correct appreciation of the static condition of external objects.

4. These compensatory movements do not occur when the vestibules and canals are extirpated and the eyes closed.

5. Lesions of the semi-circular canals are followed by

phenomena identical with those seen during the dizziness after a rapid rotation.

In short, we are forced to recognize in the semi-circular canals an organ for the perception of rotatory motion.

We can explain the perception of rotation by a simple physical hypothesis proposed by Breuer. When a vessel containing a fluid is put into motion, the inertia of the fluid has to be overcome before the fluid molecules follow the motion of the vessel. Hence, *when there are no resisting walls*, a temporary current, backward in relation to the motion of the vessel, is established by the inertia of the fluid molecules. This current continues until the internal friction has absorbed the original momentum due to the inertia of the fluid. The semi-circular canals, although not complete rings anatomically, yet contain a circle of fluid, being completed by the utricle. In such a ring-shaped tube a lateral motion can produce no current on account of the resisting walls, but no obstacle exists to a current whenever a rotation occurs in the plane of the ring; in other words, whenever the ring rotates around its imaginary axis. Since the planes of the rings coincide with the three dimensions of space, no rotation of the head can occur, without producing a current of inertia in one or more rings. With a uniform rotation the current speedily exhausts itself, and the fluid moves uniformly with its walls. This agrees with our sensations; a uniform passive rotation soon ceases to be perceptible.

When the motion of the body ceases, a current is produced in the opposite direction, as compared with the direction of the first current. The inertia keeps up the movement of the endolymph in the direction of the original rotation; the wall of the canal, however, is at rest, and hence the relative direction of the current is inverted. This again explains fully the inverted direction of the apparent rotation; for the perception of these currents no more delicate apparatus can be conceived than the fine nervous hairs of the fusiform epithelial cells. The hairs, being bathed by the endolymph, must be deflected by every current, and the impulse of the current is probably heightened by the vibration of otoliths. The structure of the hairs will besides overthrow the validity of an objection on physical grounds. It may be claimed,

that on account of the narrow caliber of the canals, the current of inertia cannot correspond in duration and intensity to the subjective sensation. But the retarded return to the straight position of these delicate hairs can easily account for the prolonged sensation.

Breuer raises the question whether each ampulla can perceive the current in either direction, and attempts to solve it in the positive. He claims, that after extirpation of the apparatus o one side, compensatory movements will still occur in either direction. Moreover he attempted to prove it directly. Opening carefully the bony canal, he pressed on the uninjured membranous canal with some dull object (a piece of paper), thus creating a current in the direction from the canal toward the ampulla. The result was a movement of the head in the plane of the canal and in the direction of the ampulla. On the other hand, when a current in the opposite direction was established by puncturing the membranous canal with a fine needle to permit the exit of the endolymph, a movement of the head took place also in the plane of the canal, but in the direction from the ampulla toward the canal. This difficult experiment however did not succeed often. The result of a *section* of a single canal is somewhat different. The section, in fact, produces not only a current through the exit of the endolymph, but also a considerable tearing of and traction on the membranous canals. In the beginning of the lecture I did not describe minutely the slight movements subsequent to a one-sided operation, but as Flourens stated, and Breuer confirmed, the section of a canal gives rise always to a shaking of the head in the plane of the injured canal, but from the central position toward the normal side. Within some minutes, however, these movements are reversed, and the head is now thrown toward the side of the operation. Breuer suggests that this reversal of the movements may be due to a state of tonus or constant slight stimulation of the normal labyrinth (perhaps from the constant secretion of endolymph). The irritation from the wounding of one canal having abated, the tonus from the other side might now predominate, and hence the reversal of the movements. This reversal in the direction of the shaking of the head does, indeed, not occur when the vestibule and canals of one side have been extir-

pated some time previous to the division of a canal of the other side.

BIBLIOGRAPHY.

Flourens.—Rechêrches exp. sur les Propriétés et les Fonctions du Syst. Nerveux, 1842, p. 464.

Flourens.—Comptes Rendus, 1861.

Harless.—Wagner's Handwörterbuch d. Phys. Bd. iv, p. 422.

Czermak.—Comptes Rendus, 1860.

Czermak.—Jenaische Zeitschrift iii, 1867.

Vulpian.—Phys. Compare du Syst. Nerveux, 1866, p. 600.

Schiff.—Physiolog. des Menschen, 1859, p. 399.

Brown-Séquard.—Phys. and Pathology of the nervous system, p. 194.

Goltz.—Pflügers Archiv. f. Phys., iii, p. 172, 1870.

Schklarewsky.—Göttinger Nachrichten, 1872, No. 15.

Waldeyer.—Centralblatt f. d. med. Wiss., 1872, p. 385.

Loewenberg.—Centralblatt, 1873, p. 278.

Boettcher.—Kritische Bemerk. u. neue Beitr. zur Literatur d. Gehörlabyrinths, Dorpat, 1872.

Boettcher.—Arch. f. Ohrenheilkunde, Bd. 9, p. 1.

Berthold.—Arch. f. Ohrenhlkde, Bd. 9, p. 77.

Curschman.—Deutsche Klinik, 1874, No. 3.

E. Cyon.—Pflügers Archiv. Bd. viii, p. 306.

Cyon.—Comptes Rendus, April, 1876.

Hitzig.—Archiv. für Anat., 1871, p. 716.

Mach.—Wiener Academ. Sitzungsberichte, iii, Abth. lxviii, 124 and lxix 44, (Abstr. in Journ. of Anat. and Phys., Apr., 1876.)

A. Crum Brown.—Journ. of Anat., 1874, p. 327.

J. Breuer.—Wiener Med. Jahrbücher, 1874, I. Heft, p. 72, and 1875. I. Heft, p. 87.

VOMITING IN PREGNANCY. — Some years ago the author reported some cases of chorea rapidly cured by ether spray. He now resorts to it in treating obstinate cases of this complaint. He uses Richardson's apparatus and directs the spray over the pit of the stomach, and the corresponding level of the spine, continuing it from three to five minutes or longer, and as often as every three hours. In rebellious cases he alternates with chloroform. The treatment is indicated as soon as there is any nausea. —*Gazette des Hôpitaux*, Apr. 20, 1878).

Original Communications.

CONSUMPTION IN THE NORTHWESTERN STATES.

By H. A. Johnson, M. D.

(*A paper read before the American Public Health Association, September*, 1877.)

I propose for discusssion several questions, to each of which I believe an appropriate answer at least is possible.

First. What is the relative frequency of phthisis pulmonalis in the Northwestern States, as compared with the Northeastern States of the Union?

Second. Does phthisis pulmonalis, relatively to other causes of death, become more frequent as population increases in the United States?

Third. What is the ratio of increase, if any, in the two sections of the country mentioned, namely, the North Atlantic States and the Northwestern States?

Fourth. What are the causes that modify the prevalence of this disease in the two sections named, and more especially in the Northwestern States?

In endeavoring to find an answer to the first question, namely, what is the relative frequency of phthisis in the Northwestern States, as compared with the Northeastern States, I have examined: 1st. The reports of the United States census for 1850, 1860 and 1870. 2nd. The reports of the Provost Marshal's office, giving the records of examinations and the causes for exemption from military duty of drafted men in the Northern States during our late civil war. 3rd. The records of the Chicago Board of Health and the sanitary history of Chicago for the last twenty years. 4th. Such other records, private and public, as have been accessible, bearing upon this subject.

As preliminary to the study, I have examined the general death-rate of the country, and of the two sections as determined by the census reports.

From the vital statistics of the United States census, 1850, 1860 and 1870, four classes of facts may be deduced:

1st. The increase or the decrease of the general death-rate of the whole country.

2nd. The increase or the decrease of the death-rate in the two sections which are the special subject of study.

3rd. The death-rate from phthisis in the whole United States and its increase or decrease.

4th. The death-rate from phthisis in the two divisions, as compared to the whole country and to each other, and the increase or decrease of this death-rate.

It is evident that the determination simply of the ratio of deaths from phthisis to all deaths may not give the true relative frequency of this disease as a cause of death—a greater or less mortality from other causes in a given population will modify the percentage of deaths from phthisis to the deaths from all causes, even though the deaths from phthisis may remain the same.

I find from the reports:

1st. That the general death-rate of the country from 1850 to 1870 has been diminished.

In 1850 the death-rate to population was 1.39; in 1860 it was 1.25; in 1870 it was 1.28 per cent. of the population. In 1850 epidemic cholera was present in many of the cities of the United States, and this fact should be considered in estimating the vitality of our population. I think, however, we may reasonably conclude that the general mortality in the United States has diminished during the twenty years.

I have also examined the problem in its relations to the two groups of States, namely, the New England States, New York and New Jersey, which I shall designate the New England or North Atlantic group; and Indiana, Michigan, Illinois, Wisconsin, Iowa and Minnesota, which I shall call the Northwestern group. I find that in both these groups the general death-rate has been diminishing from 1850 to 1870, but that in the Northwestern group the diminution has been greater than in the New

England group. In the Northwestern group it is as 106.1 for 1850 to 100 for 1870. In the New England group it is as 105.1 for 1850 to 100 for 1870, or, in other words, the improvement in the vital condition of the population of the Northwestern States is to that of the Northeastern as 106.1 to 105.1.

How do deaths from consumption compare with these conclusions as to the general death-rate in the whole country and in the two sections?

I find from the census reports:

1st. The deaths from consumption to 100,000 deaths from all causes in the whole United States were: in 1850, 10,376; in 1860, 12,453; in 1870, 14,199.

These figures indicate that phthisis in proportion to other causes of death is increasing in the United States, but they do not absolutely prove that this disease is really more prevalent or more fatal.

I find, however, that the deaths from consumption to 100,000 persons living was for the whole United States, 145.5 in 1850, 151.1 in 1860, 181.3 in 1870.

The proportion of deaths from phthisis to population, as well as to other causes of death, has therefore been increasing in the United States during the twenty years from 1850 to 1870, while, as already stated, the general death-rate of the country from all causes has been diminishing.

Let us examine more closely the valnable tables furnished by the U. S. government, with a view to an answer to the questions as to the death rate from phthisis in the northeastern and northwestern sections of the country, and the increase or decrease in that death rate.

The deaths reported from consumption in the North Atlantic States for 1850 were 251 to 100,000 persons living. In 1860, 225.5. In 1870, 253.75 for 100,000 persons living.

In the Northwestern States the deaths from consumption were in 1850, 111; in 1860, 124.5; in 1870, 134 per 100,000 persons living.

It appears, therefore, that while the general death-rate in both groups of States has been diminishing, the death-rate from consumption has increased in both, and that the increase has been,

for the last twenty years, greater in the Northwestern States than in the North Atlantic States.

This increase in the ratio in the Northwestern States is limited however to the first decade, from 1850 to 1860. From 1850 to 1860 there was absolutely a decrease in the Northeastern group of States of 25.5 per 100,000 living persons, while in the Northwestern group there was an increase of 13.5 per 100,000 living persons. From 1860 to 1870, in the New England group, there was an increase of 28.25 per 100,000 living, and in the Northwestern group, an increase of only 9.5.

I think it quite probable that for 1850 the statistics in the newer Northwestern States were less accurate than in the North Atlantic group of States. Minnesota, for instance, in 1850, is credited with a population of 6,077 persons and only one death from consumption. Iowa, with nearly the same climatic conditions, had a population of 192,214 with 82 deaths from consumption per 100,000 persons living, while the general death rate was 111 per 100,000 living.

In 1860, the death-rate from consumption in the Northeastern States to that of the Northwestern States, was as 181 to 100. In 1870 the ratio was as 190 to 100. I think, therefore, we may reasonably conclude from these data—

1st. That in both groups the general movement of life is towards greater longevity.

2nd. That this movement is more active in the Northwestern States than in the Northeastern States.

3rd. That the death-rate from consumption, however, has increased in both groups.

4th. That for the twenty years the increase has been greater in the Northwestern than in the Northeastern group.

5th. That from 1860 to 1870 the reverse of this was true, the ratio of increase was greater in the Northeastern than in the Northwestern States.

Possible reasons for the decrease in the New England groups and greater increase in the Northwestern from 1850 to 1860, will be suggested when we come to consider the influences that modify the prevalence of the disease in the two sections.

If we examine the two groups of States more particularly, we

find that in the Northeastern group consumption is more prevalent: 1st, along the sea-board; 2nd, along the shores of the lakes Erie and Ontario and the river St. Lawrence and along the Mohawk Valley. This general fact appears both from the census reports and from the Provost Marshal's report. In the Northwestern group the disease is more frequent along the eastern shore of Lake Michigan, the Ohio river and in the Valley of the Mississippi, including the Illinois, Rock, Wisconsin and western branches of the Mississippi, especially in the eastern part of Iowa.

In the Northeastern division we find the disease less prevalent west of the Connecticut river and in eastern and southern New York.

In the Northwestern division the most favored localities are along the western shore of Lake Michigan, and a belt extending southwest from Lake Michigan east of the Illinois down to the Mississippi above and below St. Louis, and the northwest part of Iowa and the whole of Minnesota.

The statistics of the Provost Marshal's office confirm the inference drawn from the census reports as to the general distribution of consumption.

The number of persons examined was half a million.

In the Northeastern States, New York and New Jersey, the ratio rejected on account of consumption per 1,000 examined, was 24.31. In the Northwestern group the ratio was 10.77 per 1,000. These figures deal only with a part of the population between 18 and 45 years of age, the period of life in which consumption is most likely to occur. So far as they indicate the distribution of the disease it seems to be more than twice as frequent in the Northeastern group as in the Northwestern group.

The statistics of the city of Chicago for the last twenty years bear upon the question of increase in the death rate from consumption in the northwest. In 1851 the death-rate from consumption was 12.4 per 10,000. In 1855, 20.2 per 10,000. In 1860, 25.3 per 10,000 persons living. In 1865, 19.5 per 10,000. In 1870, 16 per 10,000. In 1873, 16 per 10,000.

The ratio of deaths from consumption to the population from 1855 to 1873 has not therefore increased, but has decreased.

The proportion of deaths from consumption to all deaths for 22 years from 1852 to 1873 inclusive is 8.8 per cent. During the four years, 1870, 1871, 1872 and 1873, the ratio was 7.05 per cent. During the four years from 1855 to 1858 inclusive, the ratio of deaths from consumption to all deaths was 13 per cent.

During this period the ratio to population was also greater than during preceding years or subsequent to 1860. In 1852, 1854 and 1867, cholera was epidemic in Chicago, and the death-rate of consumption to all deaths was thereby diminished. Excluding these years and the death-rate of consumption to all deaths is 9.12 per cent. for the last four years of the series 7.05 per cent.

The inference from the statistics of this city are substantially in accord with those drawn from reports of the U. S. census. From 1850 to 1860 the death-rate of consumption, both to other causes of death and to the population, quite rapidly increased. From 1860 to 1870 the death-rate from this disease diminished both relatively and absolutely. In the whole Northwestern States there was, it is true, an increase from 1860 to 1870, but this increase was small as compared with that of the preceding decade.

What are the influences modifying the prevalence of consumption in these two groups of States?

1st. Physical condition and climate.

(a.) Altitude.

(b.) Temperature.

(c.) Moisture.

(*a.*) Rainfall. (*b.*) Atmospheric humidity. (*c.*) Soil.

2nd. Origin, density, occupation and modes of living of the people.

3rd. The general prosperity, conditions of comfort, and that best of all tonics, *hope*.

I cannot, in the time allotted me, attempt to study in detail the value of these different factors as modifying the prevalence of phthisis in the Northeastern and Northwestern States.

I must content myself with indicating a few only of the most important facts.

1st. If we compare the hypsometric determinations of the Northeastern and the Northwestern States, we find, with the

exception of the sparsely inhabited higher ridges of the mountain chains in the Northern Atlantic group, but little difference in the general altitude of the two divisions, and the prevalence of phthisis seems to be modified, if at all, only to a very slight extent by this fact of elevation. We speak now only of the very moderate elevations at or below 1,000 feet. I am strongly inclined to think, however, that as a rule the higher elevations are more favorable for consumptives than the low districts, but probably, in part at least, for reasons independent of barometric pressure.

The difference in the mean temperature is also slight, and is equally inadequate as an explanation of the difference in the prevalence of this disease in the two sections. The frequency of storms, however, is greater in the Northeastern than in the Northwestern States, and it seems almost necessarily true that the changes of temperature are more frequent in the North Atlantic than in the Northwestern States.

3rd. The rainfall is greater in the New England group than in the Northwestern group. This is especially true for portions east of the White Mountains, and following the sea-coast to New Jersey.

In the Northwestern group there is more rainfall on the eastern shore of Lake Michigan than on the western shore, in the river valley than over the prairies. In other words, with only a few local exceptions, the prevalence of this disease is, in the same latitude, greater in regions having the greater rainfall and the most frequent changes of atmospheric humidity. The local exceptions, I think, may be explained by the geological formations. As a rule, other conditions being equal, the disease is less prevalent in regions where the soil is sand or gravel or made up of porous rocks than in hard impervious clays or primitive rocks. Gravel, sand or limestone admit of percolations through the surface layer, and a less amount of water is carried back into the air by evaporation or retained in the surface deposits. Moisture of the ground seems to have a marked influence in the production of consumption, as has been demonstrated, I think, by Drs. Bowdwich, Buchanan and others. If we go still further west, we find that upon the great plains and the interior plateaux, the

rainfall, the humidity of the air and the soil is still less, and consumption becomes a rare disease, except as it is imported from regions of greater moisture, both of air and soil. I think we may justly believe that the diminished prevalence of the disease as a cause of death in Chicago during the last few years has been due, at least in part, to the great improvement in the drainage of the city and the surrounding country. In 1850 the city was low, with nothing but surface drainage, and the surrounding country was a marsh.

A second group of causes may be found in the origin, density, occupations, modes of living, etc., of the population. The population of the Northwestern States has been derived mostly from other parts of the United States and from foreign countries. Up to 1860 there were comparatively few persons of adult years born in these States. There has been a very large immigration from the North Atlantic States and from parts of Europe where consumption as a cause of death is much more prevalent than in this district. The proportion of immigrants was greater from 1850 to 1860 than from 1860 to 1870. The ratio of increase of this disease in the Northwestern States was greater during the former period than during the latter. While in the North Atlantic States there was actually a decrease of deaths from consumption during the former period and a large increase during the latter.

The facts were that many whole families, as well as a large number of individuals with consumptive tendencies, came to this Northwestern country, hoping thereby to prevent the development of the disease. In many cases this was successful. In many others it was not. There can be scarcely a doubt but that the mortality from consumption in the Northwestern States was increased, and in the New England group of States was diminished by the fact of such removal from one section to the other.

From an examination of my own records of consumption in private practice, I find that of 500 cases seen and examined in the last few years, 34 per cent. only were born in or had lived for any considerable time in the Northwestern States. These cases came from Chicago and a territory of one or two hundred miles around the city. Of my hospital cases I have not made an

examination, but I think I am quite safe in saying that not more than 15 per cent. have been natives or have lived for any great number of years in the Northwestern States.

2nd. The population is less dense in the Northwestern States. A large proportion are engaged in agricultural pursuits. Less dust, fewer deleterious gases (except in Chicago), purer and dryer air, coming over the broad sweep of the prairies from the the mountains.

3d. Habits or modes of living also have an important bearing on the problem. We have fewer crowded, steam-heated workshops and factories. Our people also in their houses have better ventilation than the inhabitants of colder and moist districts. It is probably true that steam-heaters and close coal stoves have a positively deleterious influence upon the vitality of the population. In the earlier history of the Northwestern States these appliances of modern life were scarcely known. The open fire-place was found in every house and cabin, and a blazing wood fire carried up the capacious chimney all gases and odors generated in the dwelling, and drew into the living rooms an abundance of clean fresh air.

In the language of Moliere's *Médicin malgré lui*, "*Nous avons changé tout cela*," and I very much fear that the change has not been for the better.

The physical and social conditions of the people in almost all new countries are more favorable to health than in older and more densely populated districts. There are fewer persons sub ject to absolute want or privation. The very fact of immigrating to new lands implies hope and courage, and these are prophylactics and antidotes to disease, especially to consumption. As illustrating the effect of mental distress upon health, I venture to refer to one fact in the statistics of our own city after the great fire of 1871. During the year of 1871 there were in the city 6,975 deaths, and the proportion of deaths from consumption to all deaths was 7.8 per cent. During the year 1872 there were 10,156 deaths, and the proportion of consumption to all deaths was 7.09 per cent. One hundred thousand of our people were made homeless by that calamity. During the 14 months following the fire, 89,724 persons were treated by the physicians of

the Relief and Aid Society. For the year 1872 the proportion of deaths from consumption among the fire patients to all deaths among the same patients was 23 per cent., while the proportion of deaths from consumption in the whole city to all deaths was only 7.09.

I think this fact illustrates in a striking manner the influence of mental distress in developing and hastening the progress of this disease.

There was no real want for food, clothing or shelter, but very many of these poor people had lost their all, often the hard earnings of many years, and to these there seemed to be no future but death. With hope and courage gone, they fell easy victims to the scourge that decimates annually 3,000,000 of human beings.

Finally, I beg to present what seem to me to be legitimate conclusions from this study of the movement of life from 1850 to 1875.

1st. The general death-rate is diminishing in the whole United States.

2nd. The death-rate is diminishing both in the Northwestern and Northeastern groups of States.

3rd. The diminution of the death-rate has been greater in the Northwestern than the Northeastern group.

4th. The death-rate from consumption to population has been increasing in the whole United States.

5th. In the Northeastern States from 1850 to 1860 there was a marked decrease, and from 1860 to 1870 a very decided increase to the death-rate from consumption.

6th. In the Northwestern States from 1850 to 1860 there was a very decided increase, and from 1860 to 1870 a very small increase in the death-rate from consumption.

7th. From the reports of the three periods, 1850, 1860 and 1870, it appears that the increase in the death-rate from consumption for the whole period was greater for the Northwestern than the Northeastern States, while the absolute death-rate from this disease in the Northwestern States was still only a little more than one-half of that in the North-Atlantic group of States.

Of the influences that modify the prevalence of the disease in

these two sections, it seems probable that in the order of importance should be considered :

1st. The origin of the population.

2nd. The rain-fall, storm-movements, changes of the atmospheric temperature and humidity and character of soil as modifying its moisture.

3rd. Density, occupations and modes of living of inhabitants.

4th. Social and moral conditions—or, in other words, general well-being and prosperity.

This paper has reference to the facts of distribution, and the reasons for difference of distribution of consumption. It is only suggestive of modes of prevention in so far as it indicated probable influences of causation.

With the improvements in sanitary science and the encouragement to sanitary study furnished by such bodies as the American Public Health Association, and the interest manifested by the people in health problems, I trust we may find some means not only to prevent the increase but to diminish, if we may not eradicate this disease as a factor of mortality.

No. 4 Sixteenth St., Chicago.

OPHTHALMOLOGY AS RELATED TO GENERAL MEDICINE.

By E. L. Holmes, M. D.

(Read at the last meeting of the Illinois State Medical Society.)

The best text books on ophthalmology, especially in German, English and French, as compared with those on other branches of medicine and surgery, possess a very high degree of merit.

The relative difficulties which confront the student in the study of these different works, may, I think, be stated somewhat as follows :

A fair knowledge of ophthalmic and of general medical science may be acquired by any one of moderate capacity, who commences study with an elementary knowledge of Latin and Greek and of physics.

Unfortunately, too many medical students not only possess meager knowledge of these branches but, to use a common expression, "do not know certainly what little they do know."

Commencing on the low plane of mental discipline, which I have just mentioned, the diligent student may, nevertheless, pursue his studies with no special difficulty in ophthalmology, till he enters upon the study of the ophthalmoscope and of refraction and accommodation. Here the difficulties for nearly all medical students are very great.

It may be said in truth, I think, that good general surgeons are liable to fail in ophthalmic surgery not so much from want of special delicacy in the use of their fingers, as from want of practice with fine instruments and the lack of judgment founded on frequent review of fundamental principles.

Good physicians also for a similar reason often fail to diagnosticate and to treat properly common diseases of the eye.

I may, without danger of making odious comparisons between the general practitioner and the oculist, call attention to several points, wherein the former is liable to injure patients by not comprehending a few principles *well.*

Consider for a moment the subject of glaucoma. While many physicians still utterly fail to recognize glaucoma, many more than formerly observe cases of the disease at eye clinics and thus learn to comprehend this condition of the eye when they meet it. They are aware that the eye is glaucomatous, when suddenly or slowly there appears an abnormal hardness of the globe, with an enlarged pupil, pain and persistent colored rings around an artificial light at night. They are aware also that an operation, usually iridectomy is most generally advised.

Still, intelligent physicians often advise patients suffering from the terrible pains of acute glaucoma, to undergo a course of internal treatment before seeking relief by an operation.

Every physician should be able to detect an increase of hardness of the globe and should urge, without delay, the appropriate operation when it is a marked symptom.

Iritis is a disease, which every physician should recognize in its early stages. Yet we find the *application* of knowledge often at fault.

Typical cases are easily diagnosticated. There is frequently a failure to make a positive and early diagnosis by neglecting to demonstrate the irregularity and immobility of the pupil after the instillation of a drop or two of solution of atropine upon the conjunctiva. Many eyes are partially or some totally lost in consequence of this omission.

The chapter on sympathetic ophthalmitis is of so very great practical importance to the general practitioner that it should never be neglected by him. We should constantly impress upon his mind the few great pripciples which govern the action of the enlightened surgeon in the management of certain injuries of the globe. These principles in general are simple and readily understood.

The difficulty lies in the fact that practitioners are too often in blank ignorance of these principles. They may have listened to a statement of the facts, presented in a lecture or two, but ever after fail to study and review the subject. The consequence is hundreds of patients with an injury of one eye become totally blind from sympathetic inflammation of the other eye, when perfect vision of the uninjured eye might have been saved.

I have frequently alluded to this subject before this Association. Its importance, and the fact that it has in recent times called forth numerous and earnest papers from many of the most celebrated writers in ophthalmic science in every portion of the world, is sufficient apology for again briefly occupying the time of the society.

Another subject of very great importance has occupied the attention of the most celebrated ophthalmologist, for years. The general results of these observations, as expressed in simple language, should be deeply impressed on the mind of the general practitioner. I refer to ophthalmic hygiene. The subject in its relation to the adaptation of glasses is very difficult for most students and practitioners to master. It requires long study and ample experience to overcome these difficulties. And yet physicians, educated in a few fundamental principles alone, are capable of doing very great good in their fields of labor.

It should be known that, while patients with uncomplicated myopia and presbyopia *may* select their own spectacles without

danger, in very many instances they may do great harm. As a rule, it is safe to state that whenever ordinary work with the eyes, assisted or not by spectacles, causes discomfort, great care and skill is often requisite in selecting the proper lenses.

No physician should be ignorant of the fact that a high degree of myopia, especially if progressive, may endanger vision by careless usage.

Certain facts regarding myopia should in no wise be confined to a specialty.

A physician to whom is entrusted the care of a family's health, should always be able and ready to give good advice regarding the necessity of having the family sewing and reading room well lighted by day, and in the evening well supplied with artificial light. Shaded rooms and those lighted with dull lamps or duller candles are no places for those using their eyes on close work. Children should be taught to avoid studying too far from the source of light in any room. Both excessively strong lights and cross lights should be avoided, as also too fine or indistinct print. The habit of bending the face too much forward while reading should never be encouraged.

Physicians in every town and village should interest themselves in the structure and lighting of school houses, in the form of desks, and should advise teachers to have all possible regard for the welfare of the children under their care, in reference to the use and abuse of their eyes.

Every physician should possess the skill to use the ophthalmoscope intelligibly in the examination of the anterior structures of the eyes.

The condition of the pupillary edge of the iris, of the lens and the anterior portion of the vitreous, can be quite readily determined by a little practice with the instrument.

In this way the physician can settle authoritatively many questions regarding the conditions of an eye which he could not otherwise comprehend.

On the other hand, an intelligent examination of the choroid, retina and optic nerve, and of refraction by means of the ophthalmoscope, requires such long and patient training that very few

physicians in general practice can ever hope to overcome the difficulties.

Fortunately the cases are comparatively few in which the practitioner can gain much assistance from the ophthalmoscope regarding a patient's general health. In the vast majority of cases the instrument reveals simply the condition of the fundus of the globe and nothing definite beyond it.

It is true that not unfrequently, after an examination of the eye, the examiner almost intuitively enquires whether the patient is suffering from Bright's disease, diabetes, syphilis, tumor in the brain, or whether he is under the chronic influence of alcohol or tobacco. In nearly all these cases, however, the careful physician is able to discover the presence of these diseases before an ophthalmoscopic examination is made. A great mass of supposed facts have been accumulated by distinguished neurologists, which are believed by some to prove that the condition of the vascular supply of the brain may be determined by ophthalmoscopic examinations of the retina and optic nerve disc. But these observations have not yet, I think, been satisfactorily analyzed to enable us to form an accurate diagnosis of the cerebral tissues by such examinations.

I think there can be no dissent from the proposition, that the study of ophthalmology as a specialty should be commenced only after the study of medicine has been pursued at least three years.

And yet every physician upon whom those afflicted with diseases of the eye are absolutely dependent for aid, should study and review year after year some of the fundamental principles of ophthalmology.

A few facts regarding some of the most important diseases should be stated as apothegms, and for ever fixed in the memory.

All this touches very closely upon the whole question of medical education. If a student has faithfully studied and learned the few principles alone in ophthalmology which I have enumerated, he will have required more time than students usually can devote to this branch. If he has pursued each of the other branches of medicine in the same careful, but may be superficial way, trusting to the future for the perfection of his education, he has a task which every medical student should per-

form—and yet which the average medical student in America cannot perform in the three years of his course.

It is much better that studies should be systematized, than that they should be pursued without system. And yet with the very best of systematic arrangement, very few students can prepare themselves for the proper practice of their profession in three years.

I believe public opinion will compel the leading medical schools of this country to elevate the standard necessary for graduation. I am thoroughly convinced, however, that no real advance will be made before the schools insist upon *four full* years of study, each year being divided into two regular terms of at least four and a half months each.

An equivalent to this change would be, perhaps, the requirement that no student should be admitted to a medical college as a matriculate, who had not at least received as complete an education as can be obtained in a good English high-school, and has not studied quite thoroughly chemistry and the use of the microscope, with microscopic anatomy.

I believe the profession, public opinion and the medical colleges themselves will gradually effect a change for the better in the results of medical teaching. I believe, however, that custom, the manner in which American laws are enacted and enforced, the habit in this country of endeavoring to do things rapidly, if not thoroughly, the plan on which our medical colleges are founded and supported as compared with European medical colleges or even with our own literary institutions, will render any absolute radical reform exceedingly slow.

THE USE OF SALICYLIC ACID IN ACUTE RHEUMATISM.

By S. W. Gillespie, M. D., Sterling, Ill.

There is, perhaps, no disease, the treatment of which occasions the practitioner so much trouble and anxiety as acute rheumatism. The number of remedies which have been brought forward for its relief, and which have enjoyed a short season of popularity and

then fallen into disuetude, is almost unlimited. At the present time the profession throughout the world are testing the merits of salicylic acid and its compounds, as remedies in this disease.

It will be conceded by every one that no two persons obtain exactly similar results from the use of the same drug in cases which resemble each other; but the testimony of a large number of persons who have observed the effects of the same remedy in a certain class of diseases, is of service in determining its therapeutic value.

On looking over the literature upon this subject, and comparing the different reports from various physicians and hospitals, both in this country and in Europe, the following conclusions seem justified:

1st. That in acute rheumatism of moderate severity, salicylic acid and its preparations are powerful remedies.

2nd. That they are of less value in the sub-acute and chronic types, and in those in which there is delirium.

3rd. That in moderate cases the pain is relieved, and the temperature lowered in from two to three days after the commencement of the treatment.

4th. That cardiac complications are prevented, as a rule, though they occasionally occur, as do such symptoms as vomiting, deafness and tinnitus.

5th. That to make the cure permanent, the remedy must be continued four or five days after convalescence is established.

As to the explanation of the action of salicylic acid, very little can be said at present. There is no doubt that its action upon the kidneys is very great, and that by its eliminating power in this direction the temperature is reduced, and the removal of the *materies morbi* effected. That the results of the salicylate treatment are much better than those in which the old remedies are used, will be evident by a comparison of the tabulated cases given hereafter (compiled from reports by various authorities) with cases treated by other remedies. The frequency of administration and dose of the drug is varied by different physicians, but the average is 60 centigrams every two hours. The best combination seems to be with sodic bicarbonate, glycerine and water, as the least stomach trouble has followed its use in this

way. In a number of the cases reported, hot applications, such as poultices, mustard draughts and hot fomentations were applied to the swollen limbs, and one physician reported several cases in which the remedial effects of the acid seemed to be increased by the addition to the mixture of liq. potassæ accetatis.

In the cases which I have tabulated, the treatment was with salicylic acid or salicylate of soda, the preference being given to the latter, from the fact of its being more pleasant to the patient and of producing the least amount of stomach trouble. To obtain good effects from salicylic acid, the drug must be pure. Several cases are reported in which dangerous symptoms followed its administration; and, in one instance, death occurred after it had been used a week. These dangerous symptoms are undoubtedly caused by using an article which contains carbolic acid, this acting as a sedative to the heart's action. So far as is known, no unpleasant symptoms have followed the use of a pure acid.

To give some idea of the value which is placed upon salicylic acid and its preparations in the treatment of acute rheumatism, I have condensed a few reports from a number of practitioners and hospitals.

In the Queen's Hospital, at Birmingham, Dr. Sawyer has treated a number of cases of acute rheumatism with salicylic acid. His former plan of treatment was to place the patients between blankets and administer potassic bicarbonate; all cardiac troubles he treated with blisters and leeches over the heart, and Dover's powder. In the cases he reports, the pain was relieved and the temperature lowered in from two to three days after the patient had been placed on the acid treatment. The tendency to pericardial troubles was lessened by its use.

Dr. Carter, of Bellevue Hospital, N. Y., reports in the *N. Y. Med. Record* for Oct., 1876, five typical cases of acute rheumatism which he treated with marked benefit with the combination of salicylic acid, sodic bicarbonate, glycerine and water. In another case reported in the same article, a child of six years, in whom the joints seemed to be invaded generally, the pulse being 140, temperature in the axilla, 39° C., the patient was put on this mixture with the result of reducing the pulse to 128, and

the temperature to 38.5° C., in the first twenty-four hours, besides lessening the pain and swelling in the joints.

Prof. Germain Sée, of the École de Médecine, Paris, in a late clinical lecture, claims that the action of salicylate of soda in febrile articular rheumatism is simply marvelous. He also finds it useful in the sub-acute and chronic forms. The action of the remedy he is not prepared to explain, but thinks it does not act by its anti-pyretic properties, but by some specific action on the morbid agent which produces the affection; for, besides its sedative action, it has a modifying influence upon the morbid tissues. In his cases the swelling, heat and pain were often removed in forty-eight hours. In a few instances the acid seemed to produce delirium, which ceased as soon as the medicine was suspended. In typhoid fever, M. Sée thinks the administration of this preparation is not only useless but dangerous, from its tendency to hasten perforation of the bowels.

Mr. William Corter, of Liverpool, has had one fatal case of acute rheumatism in which salicylic acid was used, and one in which he thinks death would have taken place had not the cold bath been used. In a number of other cases the acid treatment has been very successful in his hands. In those cases where the temperature runs rapidly up to 41.6° C., he thinks the only hope lies in the cold bath.

Dr. S. J. Holmes (*N. Y. Med. Rec.*) says: "After the employment of salicylic acid in a number of cases, I have found it infallible, furnishing early in each case complete immunity from complications, heat, swelling and pain, and in *no* case where the drug was employed early have I met with cardiac troubles. In one case where its employment was delayed, I got endocarditis, but am satisfied had I employed the remedy earlier, the patient would have escaped this complication. I have employed it in cases of varying extent and severity, and as early as the second day have found my patients free from pain and fever, and an abatement of the swelling of the joints on the third or fourth day. By its continued administration for a few days, I have found no propension to immediate return of the disease."

During the year 1877, salicylic acid was tried as a remedy for acute rheumatism in all the hospitals in Chicago, and with vary-

ing success. At Cook County Hospital the uncomplicated cases were generally treated with the acid, combined with liq. ammon. accetatis, glycerine and water, with the results I have condensed in the table below. At St. Joseph's hospital, the acid was administered in an uncombined state, and was found to disagree with the patients in two out of four cases. In other cases marked improvement occurred in two days. At Mercy Hospital, owing to the combination of the acid with potassic bicarbonate, potassic iodide and tincture of stramonium, no conclusion can be arrived at as to its remedial effects. In the hospital of the University of the State of Pennsylvania a number of cases have been treated by the remedy with the best of results, the reduction of temperature being very decided in from two to three hours, with an alleviation of the pain and swelling in two or three days.

As before stated, every one who has used salicylic acid has not met with such good results. Several cases are reported in which it has failed to give relief, and in one or two instances alarming symptoms and even death have followed its use.

Dr. Southey (*Brit. Med. Jour.*, May, '77) says, "while it reduces the temperature and lessens the pain in these cases, it does not prevent cardiac complications." And Dr. J. G. Richardson (*Phil. Med. Times*, May, '76) reports four cases in which the use of salicylic acid was followed by adverse symptoms. In one of these the tendency toward alarming prostration was decided. Dr. Watelet (*Bull. de Thérap.*) details two cases of acute rheumatism, in one of which gangrene of the lower extremities, and in both severe cystitis followed the use of salicylic acid.

Dr. C. H. Hall, Macon, Ga., reports (*Phil. Med. and Surg. Jour.*, Jan., '78) one case of death, and two others in which dangerous symptoms occurred after its use. His first case, a colored woman of twenty years, was taken with acute rheumatism in the joints of her right arm, fever moderate. On the disease extending to the left arm and limbs, he prescribed salicylic acid in doses of three decigrams every two hours. Constant amelioration of the pain, fever and swelling occurred, until he pronounced her convalescent on the seventh day. At daylight on the morning of the eighth day he was suddenly called, and found her

dead. For half an hour previous to her death, she had complained of great pain in the region of the heart, and difficulty of breathing. His second case was that of a young man, seventeen years of age, whose heart had been previously affected by rheumatism. When the doctor recognized inflammatory rheumatism, he ordered salicylic acid in three decigram doses every two hours. This relieved the fever, but so increased the heart trouble that on the sixth day he substituted alkalies for the acid mixture, which resulted in an immediate relief of the cardiac trouble, and a good recovery from the disease. The third case was of a similar nature. The salicylic acid producing such cardiac pain that it had to be replaced with anodynes and alkalies. The doctor attributes the increased suffering and death of the first patient to the continued use of the acid. From the fact that these cases followed each other closely, and were in all probability treated with a dose of the same specimen of salicylic acid, it is fair to infer that the preparation used was an impure article.

The following table of cases has been compiled from various sources. All the patients were treated with salicylic acid or its preparations. The only fatal cases which I can find recorded have been referred to:

Name.	Number of patients.	Average time patient sick in days.	Ave. time pain was relieved in after treat. commenced. Days.	Ave. time taken to reduce temp. Hours.
Dr. Sawyer, Birm., Eng.	3	12	4	6
Dr. Clark, N. Y.....	5	7	4	—
Dr. Perrin, Mich.....	3	12	2	—
Leeds Infirmary.....	9	—	2	—
Prof. Traube.....	14	—	3	48
Dr. Stricker, Berlin....	14	—	2	—
Dr. Jacobhouse.....	45	—	3	24
M. Sée, Paris.....	52	13	3	48
Cook Co. Hospital.....	18	22	3	—
St. Joseph's Hospital...	4	—	2	—
Other cases.....	33	16	3	24
Total	200	Ave. 13.5 days.	Ave. 2.8 days.	Ave. 30 hours.

Note.—In the blank places the time was not given.

SOME OBSERVATIONS ON FIFTY CASES OF WHOOPING COUGH.

By C. F. Swan, M. D., of South Chicago, Ill.

During the spring months of the current year, the suburban town of South Chicago, where I am engaged in practice, was visited by an epidemic of whooping cough. It is well known that the town is situated at the junction of Lake Michigan and the Calumet river, in the neighborhood of submerged soil and swamp lands, and this circumstance, taken in connection with the unusally cold and rainy months of the spring of 1878, may have contributed somewhat to the severity and complications of the cases recorded below.

Having had the opportunity of observing fifty patients affected with this disease in my own practice, I have concluded to make some observations founded upon the therapeutical results obtained by the treatment pursued, though the cases themselves were not, as far as I can determine, unique either in symptoms or course. Unfortunately, this conclusion was reached only after the disappearance of the disease, and, as a result, I have to depend upon the notes taken from my case-book at the time of attending each patient, rather than from details carefully collected with a view to publication. This will explain the very brief and defective record appended to many of the reports.

The first ten patients were treated in the manner detailed below, and without any attempt at establishing the efficiency of any special remedy in shortening the natural period of the disease, or in abating the frequency and severity of the paroxysms. The different medicaments used were: quinine, cod liver oil, tincture of gelseminum, and anodynes in general, with the local inhalation, in two cases, of carbolized steam spray.

After these ten patients had been treated, I determined to make trial of a formula which was suggested to me by Dr. James Nevins Hyde, of Chicago, in a conversation when the subject of

the therapeutics of pertussis was under discussion. The results of this treatment in the forty cases subsequently seen by me, can best be studied by a survey of the records themselves. I may, however, here anticipate somewhat, by saying that in some instances the results were as brilliant as they were gratifying, and that in some others the remedy employed seemed to have no effect whatever, the relative proportion of these cases will appear subsequently. I merely remark that it would seem the best results were obtained when the treatment was begun before any serious complications occurred, though in cases of pneumonia, with constant irritation of the glottis and a teasing desire to cough, marked relief was obtained.

The simple formula* used was first suggested in Germany. It is a solution of quinine and tannic acid, 4 Gms. of the former to 1 Gm. of the latter, in water, syrup, licorice or any agreeable elixir, the dose to be proportioned to the age of the child. Dissolved in water in the proportions given, a milky precipitate is formed by the insoluble tannate of quinia, much resembling an emulsion in appearance, and requiring that the bottle be shaken before the administration of each dose. A point worthy of special note, is that the remedies named, in order to produce the effect, should be used in solution. There is thus produced upon the fauces and epiglottis a marked local effect, due to the intensely bitter taste of the quinia, a local effect which unquestionably contributes to the value of the medication. As a consequence, many children utterly refuse to swallow a second dose; and one who is familiar with the symptoms of the disease, need not be told that persistent attempts to induce such children to take medicine of any kind, usually precipitate and aggravate a paroxysm. Some children, however, are not only readily induced to swallow the solution, but, experiencing the value of the medication, present themselves voluntarily, at proper intervals, for the purpose of taking their medicine, a few even seeming to enjoy it. It is, therefore, to the local action of quinine upon the fauces and glottis as well as to its anti-spasmodic virtues, that the results in favorable cases are to be attributed.

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* [This treatment was first advised by Prof. C. Binz, of Bonn, Cf. *Jahrbuch für Kinderheilk.* I p, 233, Leipzig; 1868; also *Obstet. Journ.*, May, 1870, Vol. III.—Ed.]

Number.	Age, Years.	Stage of Disease when First Observed.	Grade and No. of Paroxysms in 24 Hours.	Treatment.	Duration of Disease.	Deaths.	Complications, Etc.
1	4	.....	.....	Expectant.	5 w.	..	[conj'l hæm.
2	68	B. 1 st.	40	Carbol. Spray	10 w.	..	Vomiting, gastric catarrh,
3	¼	.....	Very sev're	Expectant.	16 w.	..	Umbilical hernia.
4	7	.....	80	An. Car. Spy.	.....	..	Vomiting, emaciation.
5	4	.....	Very mild.	None.	3 w.		
6	1½	.....	Very sev're	Qu.cod.liv.oil	8 w.	..	Catarrhal symp., retention of urine, struma, syncope, nasal and buccal hæmorrhage.
7	....	.....	Mild.	Anodynes.			
8	....	.....	Mild.	Anodynes.			
9	9	.....	8.	Gel.tr.30c.c.q.iv.h	.....	..	Slight fever.
10	7	.....	8.	" "	.....	.	Slight fever.
11	2	B. 3 w.	Very sev're	Qui. & Tann.	3 d.	..	Pneumonia.
12	1/12	.....	.....	.....	1 d.	1	Spasm of glottis.
13	2	2 w.	Const. cou.	Qui. & Tann.	2 d.	..	Fever slight; med. rel'ed.
14	1/6	2 st.	Very sev're	Qui. & Tann.	3 w.	..	Medicine valueless.
15	2	2 w.	12.	Qui. & Tann.	10 w.	..	Headache; med. valueless
16	7	.....	Mild.	Expectant.	.....	..	Second attack.
17	2	.....	.....	.....	16 w.	1	Marasmus.
18	10	10 w.	.....	Expectant.	14 w.	..	Pneumonia.
19	10	2 w.	Distinct.	Qui. & Tann.	2 d.	..	Disease aborted.
20	14	2 w.	Distinct.	Qui. & Tann.	2 d.	..	Disease aborted.
21	6	2 w.	Distinct.	Qui. & Tann.	2 d.	..	Disease aborted.
22	3	2 st.	24.	Qui. & Tann.	2 d.	..	Disease aborted.
23	1	.....	.....	Med. refused.			
24	8	.....	Mild.	Qui. & Tann.	3 w.	..	Second attack.
25	6	.....	Mild.	None.			[valueless.
26	3	.....	Severe.	Qui. & Tann.	6 w.	.	Nasal & bucc. hæm. Med.
27	4	B. 2 st.	.....	Qui. & Tann.	4 d.	..	Disease aborted.
28	7	.....	Mild.	Qui. & Tann.			
29	3	2 st.	Parox. freq.	Qui. & Tann.	....	..	Anodynes at night.
30	5	.....	No	record.			
31	....	.....	Mild.				
32	....	.....	Mild.	Refused			
33	....	.....	Mild.	Medicine.			
34	....	.....	Mild.				
35	2	4 w.	Severe.	Qui. & Tann.	3 d.	..	Capillary bronchitis.
36	1½	.....	Mild.	Qui. & Tann.			
37	4	.....	Mild.	Qui. & Tann.	.....	..	[of urine; 3d week measles.
38	6	.....	60.	Qui. & Tann.	7 d.	..	Struma, nasal hæm., syn., reten.
39	2	10 w.	48.	Qui. & Tann.	10 d.	..	Hæm. nas. & bucc., incont. of urine
40	13	3 w.	Severe.	Qui. & Tann.	14 d.	..	& fæc. dur. Par. Capil'ry bronc'ts.
41	6	.....	Mild.	Qui. & Tann.	4 w.		Croupous pneumonia.
42	1	B. 2 st.	....	Qui. & Tann.	2 d.	..	Vomiting with Paroxysms.
43	6	B. 2 st.	24.	Qui. & Tann.	mrkd	re	lief. Emaciation.
44	4	.....	Mild.	Refused Med.			
45	32	3 w.	Severe.	Qui. & Tann.	mrkd	re	lief. Pneumonia.
46	5	7 w.	Severe.	Qui. & Tann.	7 d.	..	Pneumonia.
47	10	.....	50.	Qui. & Tann.	10 d.	..	Syncope, cap. bron, delir.
48	3	.....	Mild.	Qui. & Tann.	no rlf	..	from treatment.
49	2	1 w.	Marked 24.	Qui. & Tann.	2 d.	..	Disease aborted.
50	6	.....	.....	Qui. & Tann.	no rlf	..	from treatment.

The following cases may be given in somewhat fuller detail:

Case XI. Millie N., æt. 2 years. I saw her first at the beginning of the third week on the fourth day of the second stage. Pulse, 160. Temperature, 40° C. Respiration, 60. Had eaten nothing for 48 hours. Dullness and absence of vesicular murmur over right lung. Stupid. Quin. sulph. 2 grams, tannic acid .50 Gm., syrup. glycyrrh. co. 250 C. C. S. Teaspoonful every four hours, also tincture of aconite root .03 C. C., mustard bath, and cold to head.

2nd day. Pulse, 140; temperature, 39.5° C. Had slept well on the previous night.

3d day. Temperature, 38° C.; pulse, 102. Perspired during the night and only coughed once.

4th day. Countenance, bright; pulse, 100; temperature, normal; appetite, good. Only one paroxysm in twenty-four hours; expectorated without any effort, a frothy mucus, tinged with blood. Convalescence from this date.

Case XVIII. H. J., æt. 10 years. I first saw her on the tenth week of the disease. Pulse, 140; temperature, 40.5° C.; respiration, 45. She had great pain in the right lung with expectoration of a large amount of rusty mucus. Finally, the entire right lung became solidified. Convalescence was slow and accompanied by the production of albuminuria and anasarca. Duration of disease, fourteen weeks.

Case XXVII. Hulda B., æt. 10 years. Twelfth week of tussis convulsiva. 'Caught cold' and had chill, followed by fever and acute mania. I found the patient talking incoherently, with temperature of 41.6° C.; pulse, 140; respiration, 72, and perfectly deaf. Paroxysms every half hour, lasting five minutes, and frequently ending in syncope. Mucous and sonorous râles very loud over the whole chest. Ordered: quinine sulphate .12 Gm., tannic acid .033 Gm., alternately with tincture of gelseminum 0.333 C. C., every four hours and frequent sponging of the whole surface. Bromide of potassium .60 Gm. at night, which secured rest. Convalescent in ten days, hearing regained, and cure complete.

Case XXXV. Mary H., æt. 2 years. I saw her first in the fourth week of the disease. The paroxysms were very frequent

with loud râles, audible over the entire surface of the chest. ulse 140; temperature 40° C.; appetite poor. I gave sulphate of quinine .100 Gm., tannic acid .016 Gm. every four hours with good results. On the third day, the cough had nearly disappeared, and the paroxysms were much less severe and frequent. She expectorated freely a tenacious yellowish mucus. After this date I lost sight of the patient.

Case XLV. Mrs. McV., æt. 32 years. She had been coughing three weeks when I first saw her. Pulse 140; temperature 40.5° C. Dyspnœa and paroxysms very frequent and painful. Dullness over lower lobe of right lung; rusty sputa. I gave her quinine sulphate .60 Gm. at *bed time.* Tinct. of aconite root 30 C. C. every four hours. Morph. .016 Gm. hypodermically. On the next morning, pulse 100; temperature 37° C.; paroxysms less frequent and painful. Ordered quiniæ sulph. .18 Gm., acid tannic .06 Gm. every four hours, with good effect.

Case XLVI. Oscar M., aet. 5 years. In the seventh week of tussis convulsiva, had not lain down for three nights and days, but sat in a rocking chair. No appetite; pulse 140; temperature, 40.3° C.; respirations hurried, about 40 per minute. Photophobia and mental irritability; dullness over lower lobe of right lung, and absence of vesicular murmur; urine scanty; bowels costive; tongue furred. Ordered quiniæ sulphas 0.12 Gm., acid tannic, .033 Gm., every four hours, with tincture of gelseminum, .30 C. C. Paroxysms every hour, and oftener, if irritated. Improvement marked. Seventh day, convalescent. No cough.

Remarks: Excluding the two cases occurring in adults, aged respectively 68 and 32 years, the average age of the 42 children whose ages are recorded, was 4.7 years. Of the 22 cases, in which a record was made of the period of the disease in which the patients were first submitted to treatment, 6 were seen at the beginning of the second stage, 6 in the second week, 2 at the beginning of the first stage, 2 in the third week, 2 in the 10th week and 1 in the fourth week. Of the 30 cases in which a memorandum was made relative to the severity of the disease, 21 were registered as mild, the symptoms being well marked, 5 as severe and 4 as very severe. The average number of paroxysms in 24 hours, in the case of 10 children, was 32.8. Five cases were

complicated with pneumonia, 4 with nasal hemorrhage, 3 with buccal hæmorrhage, 3 with capillary bronchitis, 3 with fever, 3 with vomiting at the time of the paroxysm, 2 with retention of urine, and 1 each with conjunctival hæmorrhage, umbilical hernia, spasm of the glottis, headache, marasmus, struma, incontinence of urine and fæces at the time of the paroxysm, and delirium.

As regards the results of the treatment—the most interesting point in this connection, the table shows the following results: Of the forty cases visited after the quinine medication was tried, three were so mild as to require no treatment; no record is given in six cases; and six children utterly refused the medicine in consequence of its bitter taste. Two died, one of spasm of the glottis, a baby one month old whom I saw but once; the other of marasmus, after lingering four months. Deducting, then, 17 cases from the 40, we find 23 left. Of these 23, 8 patients received no benefit whatever from the quinine and tannin, or at least the duration of the disease did not seem to be shortened in any degree by the treatment. In two cases "marked relief" was afforded, the duration of the disease not being noted.

But in the case of the fifteen patients not heretofore considered, the disease was completely aborted in an average period of 3.8 days, three of the cases being complicated by pneumonia and two by capillary bronchitis. Due allowance being made for the limited number of observations, the results of which are given above, I think it not unreasonable to conclude that the use of a solution of quinine and tannin internally in whooping cough, may be employed with advantage in many cases; and that in nearly 60 per cent. of the little patients who can be persuaded to swallow it, the disease will be completely arrested in about four days.

ON THE TREATMENT OF THE BOWEL AFFECTIONS OF INFANCY AND CHILDHOOD, INCIDENT TO THE SUMMER MONTHS.

By De Laskie Miller, M. D., Chicago.

(*A Paper Read before the Chicago Medical Society, July* 15, 1878, *and published at their request.*)

Annually, as the warm season approaches, the attention of medical men, especially in large cities, is directed to the increasing prevalence of, and to the mortality from the bowel affections of children. So serious are these affections in unfavorable localities, that the ranks of this interesting class of our patients are decimated despite the most assiduous exertions for their relief.

The suggestions I may make this evening upon the treatment of the bowel affections of infancy and childhood, incident to the summer months, are presented in response to the request of your efficient secretary, who, I believe, should be credited largely for the prosperity of this society hitherto.

It cannot be claimed that my subject is new, nor would I lead you to expect that any element of novelty in its treatment will be advanced. It has been so frequently presented to this society that it may now well be styled trite. Wisdom and skill, however, come from ample facilities for observation extending over considerable time and space. I may well feel satisfied if the accumulated experience and wisdom of the members of this society present, shall be elicited, in a free discussion, which cannot fail to result in useful suggestions.

Would I present an intelligent résumé of the treatment of the bowel affections of infancy and childhood, I must enumerate some conditions which are predisposing, and some causes that are provocative. If some of these seem to be emphasized above that which is usual, it will be to direct especial attention, first, to prevention and, second, to restoration by the minimum of medication.

I am not unmindful that I am speaking to physicians as well qualified as I to appreciate the ever varying conditions present

in these cases, and therefore shall not deem it necessary to elaborate the different topics in detail. The time at my disposal would not justify this.

Allusion in the briefest terms only, is all that will be required in regard to the anatomical peculiarities which predispose to abdominal disease in early life, such as the immature development characterized by softness of the tissues which exist in the mucous membrane its follicles and glands especially of the alimentary tract, and the peculiar arrangement of the stomach and intestines, which renders these organs more susceptible to irritants than in mature life. These are familiar to every physician, but are important as predisposing to vomiting, diarrhœa, gastro-intestinal inflammation, etc.

High temperature, by exalting nervous sensibility while tone is depressed, is doubtless an important factor in these cases. These effects of a high temperature upon the organism in early life, may be everywhere and always observed. They inhere, and must be accepted as inevitable. That high temperature alone is the cause of the high rate of infantile mortality does not appear tenable, else would the returns from country and city, more nearly correspond.

A vitiated state of the atmosphere is more potent in its deleterious effects upon the infant organization. This, too, must be accepted as inevitable in large cities. It is impossible to congregate half a million of people, and still enjoy a pure atmosphere. The consideration of drainage and ventilation comes not within the scope of this paper, however important they are conceded to be. In all cities, conditions exist which are deleterious to the public health, and cannot be avoided by any, except by migration. Causes of contamination, however, which by proper care might be obviated, exist in many dwellings. Medical men know too well, from daily personal experience, that the atmosphere of many dwellings, and these not always limited to the poorest classes, is unnecessarily vitiated to the last degree, by neglect of the most common attentions demanded in every household. Who among us, while making professional visits, has not detected repeatedly the sickening odors arising from decomposing excreta, which should have been promptly removed from the apartment,

and fresh air admitted! It remains for the physician to suggest the changes, and to see that his commands are executed.

It will be proper here to consider briefly, a factor of greater importance in these cases, viz., the food suitable for infants. That furnished by nature, undoubtedly best fulfills the demands of infancy, and in the majority of cases leaves nothing to be desired. Still it does not follow that breast milk is always nutritious or even harmless. Every physician has frequently met with instances in which the milk of the mother, or wet nurse, acted upon the infant's stomach as a direct irritant. And this, too, when the mother or nurse appeared in excellent health. Milk to be acceptable should possess certain qualities, and be free from certain elements. It should be alkaline in its reaction. It is, however, so rapidly rendered acid, that this change is frequently overlooked. Few, I imagine, in the haste of pressing duties, fully realize how suddenly and seriously the milk is affected, by temporary causes, such as slight errors of diet, as by the use of green and unripe vegetables, and also most kinds of fresh fruit though ripe. The effect of these is to render the milk acid, which can be demonstrated by the simplest test.

The influence of diet upon the mother's milk should never be lost sight of when treating infants during the summer months. The immediate effects of acid milk upon the child are imperfect digestion and assimilation, giving rise to restlessness, wakefulness, etc., followed by vomiting and diarrhœa.

The inference is forced upon us, that attention to the regimen of the nurse, claims an important place in the management of the bowel affections of infancy. Manifestly, the articles of the mothers' diet should be restricted, to the exclusion of all acescents, but should be liberal in the quantity of plain nourishment. This leads me to add, that when the milk is deficient in quantity for the needs of the child, it is an error to attempt as is too often done, to increase the quantity by persistently overtaxing the stomach of the mother—with malt liquors—or other alcoholic stimulants, pottages, or even with solid food, to that degree that indigestion and anorexia are produced. Good milk is formed only when the general health is good, and the digestive organs perform their functions normally.

There are other qualities of the milk that not only fail to nourish the child, but produce derangements in its system, which lead to the most disastrous results. Such as the persistence of the elements peculiar to colostrum, or it may be depraved by the early return of menstruation, by the existence of pregnancy, by laborious occupations, by sexual excitement, by emotion and mental excitement, and by other causes which might be enumerated. Hence I conclude that it is proper to inquire into all causes which may impair the function of the mammary gland, ere we resort to the pencil and prescription paper.

No allusion to a substitute for the mother's milk, when that is unsuitable for the child, would be made, were it not a fact, that it is not always possible for parties to secure the offices of a hired wet nurse, and also for the other fact, that physicians permit, and sometimes advise, a resort to starch under one name or another, or to crackers and water, as the principal articles of food, upon the use of which by the infant, starvation, as a rule, should follow. The simple plan of allowing the milk of a well fed cow to stand for two hours, and then by taking the upper one-fourth with the cream properly diluted with warm water, and sweetened with *sugar of milk*, and given at the proper temperature always, will I believe answer the purpose well.

Suitable food is an essential in maintaining the health of the infant. Its development and growth require no less pure air and proper clothing. These constitute the tripod of life and health in early life. In many cases of sickness, all that is required is an adjustment of these essentials.

Were a criticism volunteered, upon the course too frequently followed when treating the diseases of infancy, it would be the too complete reliance placed on *medicine*, to the neglect of the hygienic conditions to which reference has been made. Is it not a fact that medical men are apt to fix the atttention exclusively upon the symptoms present, whether they be vomiting, diarrhœa, or abdominal pain, and at once set about removing these by medication, while they omit the weightier matters of the *law* of hygiene?

Nevertheless, medication may become necessary. When irritating substances have gained admission into the stomach and

bowels, or when congestion or inflammation has set in, and the functions have been arrested or perverted, a resort to the means which experience has approved is imperative.

Vomiting, gastritis, diarrhœa and entero-colitis, are affections attributed to an elevated temperature, and these may be taken as a text for a review of the therapeutics on this occasion.

It will be understood I exclude those disorders of the alimentary canal, which are symptomatic of cerebral diseases or scarlatina, or are produced by other general diseases, and confine myself to the effects of unwholesome food and of abnormal secretions upon the mucous membrane, the irritability of which has been exalted and its tone depressed by high temperature, this atmosphere thus heated frequently introduces into the system, malaria, which aggravates all other symptoms.

Vomiting.—When offending material causes irritation of the stomach, the first indication, viz., its removal, is not infrequently effected spontaneously, by vomiting. In such cases the vomiting should not be considered a disease. It will be wise to withhold the ordinary nourishment for a time; for six, eight, or even for twelve hours, giving only the blandest fluids in small quantity, after which permit a return to the ordinary diet gradually, being assured, however, that the food does not contain offending material. Should the vomiting continue, a laxative may be administered, as castor oil; after its action, alkalies, lime water in milk, 5 to 50 Gms., one-fourth of which may be given every hour or two, and should the patient become restless, as is frequently the case, the following mixture may be found useful:

Glycerine	4
Tr. opium camph	4
Cherry-laurel water	8
Syrup	32

Mix. One teaspoonful every hour or two.

When the ejecta are intensely acid, the mistura cretæ may be substituted for the milk and lime water. If this be given for this condition it should be repeated at short intervals, every half hour in some cases. Failure in obtaining the desired results may be due, not to the remedy, but to the long intervals intervening

between the doses. Strong coffee will also be found a good remedy, and in extreme cases is most efficient.

At a later period, and in a more severe form, attended with congestion or inflammation, characterized by febrile movement, tenderness over the epigastrium, dry tongue and great thirst, cooling bland fluids, alkalies, perfect quiet, and counter-irritation over the stomach are indicated. I have known a blister two inches square, applied for two hours to a child one year of age and over, effect complete relief. The admonition must not be omitted, that in early life it is dangerous to allow the blister to remain too long. When the skin is deeply reddened, remove the blister and apply a light poultice.

Diarrhœa is, many times, only an extension of the irritation starting in the stomach, or it may be a salutary effect of nature to remove offending material, which if retained, would lead to derangement of function and organic disease. You all well know how intractable and dangerous diarrhœa too frequently becomes, when the causes continue to act. It is important that nothing be omitted which will improve the hygienic condition of the patient. Attention should be directed to the quality and *quantity* of the food, and if fed artificially, especially to the *temperature* of the food. It is common for nurses to give the food at one time too hot and at another too cold. The air, the clothing to protect from sudden alterations of temperature, bathing, etc., must be under the supervision or at least under the special direction of the physician, who should also be particular to examine the condition of the gums. In brief, all causes which produce or aggravate irritation of the delicate mucous surface of the bowels should be removed.

When the dejections contain undigested substances as masses of casein, or are excessively acid, as they frequently are, and so acrid that the cutaneous surface is excoriated by their contact, a cathartic is indicated; oil in the first instance, calcined magnesia in the latter; relief will follow. To prevent a recurrence of the diarrhœa, follow the cathartic with pepsin (saccharated) one to three grains, every three or four hours, at the time of feeding. Also give the following:

Bismuth sub-carb	2
Tr. opium camph	4
Syrup of ginger	32

Mix. A teaspoonful as required.

Should the diarrhœa still continue, an astringent must be added, then substitute for the latter the following:

Glycerine	5
Tr. kino	5
Tr. opium camph	10
Chalk mixture	50

Mix. Teaspoonful as required.

The quantity of food must be limited, for if of good quality in excess, it will neutralize the good effects of medication.

The case will not continue long before symptoms of approaching exhaustion will be manifested. These should be detected early, for the prevention of exhaustion is easier than cure. For two reasons quinine is indicated at an early stage. First, it is reliable in arresting debility, and second, because malaria so frequently forms an important factor in the causation, quinine is *par excellence*, the remedy. When properly combined, any child will take it, if not with a relish at least without resistance. The following is suggested as an eligible formula:

Sulphate of quinine		40
Tannic acid		20
Powdered licorice root (Squibb's)	4	
Simple elixir, Syrup of tolu, each	16	

Mix. Teaspoonful every fourth or sixth hour.

Should the disease not yield, a new set of symptoms are liable to supervene, as increased frequency of the pulse, dry tongue, hot skin, increased restlessness, tenderness of abdomen; the discharges will be small in quantity and may contain mucus streaked with blood, indicative of inflammation. In this stage of the case I have to repeat it is important that acrid secretions be promptly removed from the alimentary canal. One teaspoonful of castor oil with one drop of laudanum will usually accomplish this. We must do more. An alterative will benefit these cases such as—

Calomel	20
Sugar of milk.....2	

Make ten powders.

Give one every three or four hours till the effect is perceptible in the secretions. At this stage the dejections are frequently characterized by a peculiarly offensive odor, as if produced by rapid decomposition. When this is the case I have found charcoal to act well. It may be given suspended in milk or cinnamon water, or syrup, or as in the following mixture:

Bismuthic sub-carb	50
Powdered charcoal..... 1	
Tr. opium camph..... 2	
Syrup of ginger.....32	

Mix. Teaspoonful every hour.

When the surface becomes hot and dry, a warm bath, followed by hot fomentations over the abdomen, on which a few drops of the ol. terebinthina have been sprinkled, sufficient to cause slight redness of the skin, will relax the surface and relieve the intestinal congestion. Should the evacuations occur frequently and contain lymph streaked with blood, then the following mixture should benefit:

Plumbic subacet	10
Morph. acetate.....	016
Acid acetic (crude).....	30
Syrup..... 60	

Mix. Teaspoonful as required.

The case has now advanced to a stage when exhaustion follows rapidly. The nourishment should be varied, raw beef, essence of beef, or beef tea may be given; these will be acceptable to the stomach, and are easily assimilated. Stimulants, as brandy in water, will many times be useful in equalizing the circulation and in preventing a frequent complication, viz., spurious hydrocephalus. Tenesmus is a frequent and distressing symptom; an injection of 4 C. C. of mucilage of elm bark, containing one drop of laudanum, will afford relief.

In some cases the patients require an anodyne, when no form of opium is admissible. I have frequently prescribed the following, with satisfactory results :

Chloral hydrate.....		50
Syrup	32	

Mix. Teaspoonful as required.

It removes the irritability, quiets the restlessness which so frequently aggravates the debility, and many times will produce refreshing sleep.

Having arrested the violence of the symptoms, it is of the first importance to hasten the convalescence. For should slight symptoms only linger, the slightest causes may produce a relapse, more difficult to control than the first attack. Errors in diet, sudden variations of temperature and the like, are among the causes of relapse. The same vigilance is necessary during convalescence that was essential during the violence of the disease.

In some cases the circumstances of the parties will permit the best thing to be done, viz., to obtain the benefit of a change of air. Every gentleman present is familiar with the rapid improvement due to an exchange of city air for the atmosphere of the country. We have no mountain ranges within easy reach, that would give us an atmosphere best suited to these cases, but we have, what may be considered a great boon, the pure air on the lake. A trip to Mackinac, for those who can afford it, may be advised with great confidence. And for those who for any reason cannot take the trip, temporary but repeated sojourns on the lake will accomplish much. The hospital boat, in a large class of cases, affords the means essential to the successful management of the convalescence from cholera infantum, diarrhœa, etc.

This sanitary measure should be well patronized during the summer months. If one boat is not sufficient others should be employed, and at the public expense if necessary; the charge would not be burdensome.

Much benefit may be attained in cases where the best course is for any reason impracticable, by changing the patient from one room to another, even in the same house. Especially should the change be made to some upper room. The greater the elevation the better, for obvious reasons.

I have only to suggest, in conclusion, that heroic medication, when delicate structures are involved, may sometimes, with advantage, give place to lenitive measures, whose efficiency has

stood the test of time and the experience of the profession. The best results are to be expected when suitable agents are accurately adapted to the pathological conditions present in any given case. I therefore close, as I began, by reiterating that the object of the paper has been to emphasize the importance of securing the best hygienic influences, both in preventing and removing the diseases of infancy in the summer months.

The baleful influences of a vitiated atmosphere upon the blood and tissues of animal life is patent to all in the community. That this influence constitutes an unknown quantity in the causation of the bowel affections of infancy and childhood, is undoubtedly true; still it is among the most potent for evil. If an absolutely pure atmosphere cannot be obtained in large cities, we should at least *strive* to attain the ideal, by avoiding and removing every source of contamination. To accomplish this, it is the duty of every good citizen to aid, by every legitimate means, in the accomplishment of this object. In this direction the exertions of our efficient Health officer, in improving the sanitary condition of the city, entitles him to the thanks of a long-suffering and afflicted community.

Those who for mercenary ends persist in poisoning the atmosphere, upon which all subsist, with deleterious gases from decomposing animal matter, thus causing and aggravating disease, in direct violation of the statute in such case made and provided, should be dealt with as other outlaws, in the last extremity, if necessary—by force.

THE Bulletin Printing Company, of Chicago, who do the press work for this Journal, can supply blanks properly ruled for prescription writing in accordance with the metric system; and Messrs. Buck & Rayner, retail druggists, of this city, are prepared to compound medicines written in the terms of the same system.

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

A New Mode of Arresting Nasal and Uterine Hemorrhage.

It is a wise maxim that the simplest things are best.

An ordinary rubber condom is passed into the anterior nares, by means of a flexible catheter, and carried back, along the floor of the palate, until visible behind the velum pendulum palati. A few pieces of pounded ice are then introduced into it and pushed back also. Thus the temperature is lowered, locally The elastic rubber bag is then inflated with air, by gathering its neck tightly around the nozzle of a bulbous syringe, till the nasal cavity is filled, the elasticity of the bag adapting its shape to the turbinated bones and septum nasi, and the hæmorrhage, under the combined influence of cold and pressure, of course ceases. Bellocq's sound for tamponing is not always accessible, and even if it were, this plan is better. It possesses another advantage over the sponge, which is used with Bellocq's sound, and that is it never can irritate, is more cleanly, and if renewed bleeding occur, on allowing the air or water to escape, one need only refill it with ice or water, leaving it still *in situ*, till the hæmorrhage is controlled by constitutional measures.

It is almost needless to say that the promptest and most potent of these is a hypodermic exhibition of one gram of the extract of ergot, which is prepared in a soluble form by Squibb.

In uterine hemorrhage, or rectal, I have not yet used this tampon, but its entire adaptation in these cases is obvious. The principle involved is somewhat similar to the uterine dilators of Barnes, though not identical with it, for in those the object is to overcome muscular contractility; in this, to cause the coagulum

or stasis which *cold* combined with elastic and equable pressure produce.

EDWARD C. HUSE, M. D.

ROCKFORD, ILLS., June 24th, 1878.

(We are pleased to publish the practical communication of our correspondent, but must advise him that his method of procedure has been given to the public by an earlier writer.—ED.)

A New Ligature.

The carbolized cat-gut ligatures which Prof. Lister has introduced to the profession, are of great advantage over the time-honored silken ones, or those formed from silver wire. Torsion, acupuncture and the various devices in vogue from time to time, have each had their friends and enemies, their advantages and disadvantages. The principal danger in using any and all ligatures especially upon vessels of the first magnitude, such as the subclavian, the carotid, or the iliac, is secondary hæmorrhage. Septicæmia is not likely to occur after using carbolized ligatures, yet the chief objection to them is that the material of which they are composed is organic. Hence, like all organic substances, they are liable to be either imperfect in structure and break, to be imperfectly carbolized and hence rot, or to produce irritant and septic effects at the point of application. It is not easy to see how the multiple conditions on which their absorption depends, can, in every instance, be complied with, especially outside the walls of a hospital. At best and in any event, the life of a patient, where one of these ligatures has been used, hangs upon little more than a thread and often far less than that. A ligature, to be perfect of its kind, should possess the elements of strength, ease of application, readiness of absorption and simplicity. It should not depend for its advantages upon a material perishable in its nature under *ordinary* circumstances, neither should its perishability and consequent absorption on which its whole value depends, be left to accident or chance.

There is but one substance in nature which entirely meets and fulfills the requisites of a perfect ligature. This substance the writer has carefully tried in several instances; and begs leave to submit his plan unhesitatingly to the profession.

If a piece of magnesium wire be lighted, as it readily is, in the flame of a lamp, and allowed to burn, the process of oxidation which ensues upon its combustion, converts it into ordinary magnesia. The ash which burning magnesium forms, is ordinary magnesia, plain and simple. It is thus innocuous and readily absorbed.

Its action upon the animal economy is absolutely harmless to all textures everywhere. When an artery or vein is tied with a loop of magnesium wire, this process of oxidation goes on more slowly in the presence of animal heat and moisture, yet none the less surely, none the less completely than when it is burned up in the way above cited.

As fast as it is oxidized it is absorbed in the form of magnesia, whose effect, if anything, would be, from its alkaline character, to prevent rather than excite irritation. The length of time required for its absorption depends of course upon the size of the wire used. It is a matter of no importance comparatively, whether it be absorbed in ten days or one hundred if we know *it will be absorbed* beyond a peradventure in all instances. Thus far I have used it but three times, once upon the radial artery and twice in the operation for varicocele. It has seemed to me that this ligature will be of a special value in ovariotomy, where it is desirable to tie the vessels of the pedicle and return it into the abdomen, and in operations for hemorrhoids. It can be used everywhere under all conceivable circumstances and contingencies; it will never break; it is always ready; it cannot untwist like cat-gut or silk; it can neither slip, become stiff or rotten; it can never provoke irritation, absorb moisture, disappoint or cause anxiety, but will always act, "*tuto cito et jucunde.*"

It seems to me, finally, that it must supersede all ligatures, because it is not only better, safer, more convenient and needful, but the *only* thing necessary to overcome the whole category of objections on either one of which, lives of priceless value have in hosts of cases been dependent.

I would earnestly beg that this discovery may receive careful and unbiased attention, as I am confidently assured that it will not disappoint surgeons or patients.

EDWARD C. HUSE, M. D.

ROCKFORD, ILLS., June 17th, 1878.

Correspondence.

THE MANAGEMENT OF FEVERS IN GERMANY.

By W. S. Caldwell, M. D., Vienna, Austria.

In the following article I may not be able to advance any new ideas upon the subject of the management of the febrile state. I propose, however, to discuss certain methods of procedure which are regarded by most practitioners of medicine as either too impracticable for adoption in private practice, or as resting upon evidence in point of utility which is not quite trustworthy.

So much, in fact, has been written, of late, on the cold water treatment of typhoid fever, that the subject would seem to be well nigh exhausted; and the only apology that I have to offer for this encroachment upon an already fully occupied field, is that I hope that some of the suggestions I shall make will be more easily carried out in private practice than those usually given by men who have at their command the abundant resources of a well directed hospital.

Much, however, as this subject has been discussed, and in spite of the wonderful statistics lately published by Liebermeister, showing the beneficial effects of the cold bath as an antipyretic agent, during my late visits to the English and French hospitals I found that typhoid fever was *generally* treated by the administration of the mineral acids, much after the plan that I was taught in the first lectures I attended a quarter of a century ago. In a course of lectures delivered by the professor of practical medicine in one of the New York colleges during the last winter on the same subject, he never even referred to the benefits to be derived from the use of the cold bath in the management of this disease.

A late work on the nature and management of fevers (Ueber Wesen und Behandlung des Fiebers), by Dr. Carl Emil Buss, of Bâle, is now attracting considerable attention in Germany.

The writer is a warm advocate of the fermentation theory as a cause of the febrile state, and he says that the irritant is a living organism, which, by its multiplication in the circulation, calls forth the lesion in each particular case.

"Others again claim that the presence of a living organism in the blood is not the *prime* cause of the complex symptoms, but that the products of decomposition which are produced by them, are more likely to act as an irritant, and thus cause the rise in temperature."

The injection of putrid matters into the circulation is found, he says, to produce septic fever in a direct ratio to the quantity of bacteria which such fluid contains. One of the most pernicious results that follow as a sequel of fevers, is a degeneration of the muscular substance of the heart, and a parenchymatous change in other organs essential to life. "Although hyperpyrexia may account in part for these results, it is probable that they are also largely produced by the presence of living animalaculæ, which as yet we are unable to discern, but which act essen tially the same as the trichina spiralis upon the muscles of the body when it has gained access to the system."

Taking this view of the nature of fevers in general, which the author claims are, in their manifestations, essentially the same, our remedies should be such as have a tendency to destroy these low forms of animal life. "It is wonderful that those remedies which are the most powerful anti-pyretics, all possess in an eminent degree antiseptic properties also. In confirmation of the above theory, it is found that the remedies that act so happily in reducing animal heat when we have a high temperature, produce little or no effect when given to a healthy individual. It is very probable that the anti-pyretic properties of these drugs are effected by their combination within the circulation with the septic element that produced the fever, and in this way we have a favorable result produced."

While the author is a warm advocate of the use of cold baths to reduce the temperature in fevers, he thinks that their use

should be supplemented by other treatment, for in such diseases as diphtheria, scarlatina, and the worst forms of abdominal typhus, our patient is stricken down at once, and succumbs rapidly to the overpowering effects of a prime cause, that our symptomatic treatment fails to reach.

The indications in the treatment of fevers are, first, to neutralize the "causal irritant;" and, second, to use such other means as we have at our command, to assist in the reduction of the temperature.

To fulfill the first indication, the best remedies are the salicylates and cresotinic acid. Buss says, "the antipyretic effects of the salicylate of soda cannot be equalled by any other drug. It is far preferable to the salts of cinchona, because it does not retard the elimination of carbonic acid in the system, and acts more energetically in reducing the animal heat. Within three or four hours after the drug was given, the fall of temperature was generally from two to three degrees, but when given largely, the reduction was as much as five degrees. This formula for the use of this remedy in typhoid fever is as follows:

Salicylate of soda	15
Syrup of cinnamon	30
Water	180

Mix.

Give one tablespoonful every three hours, excepting eight hours of the night, when the patient is allowed to sleep.

Should this dose offend the stomach, he advises to give one-third the quantity and repeat the dose every hour.

Cresotinic acid, given to the extent of 10 to 15 grams in the twenty-four hours, was found equally efficacious.

The effect of these remedies was, as the author asserts, to shorten the duration of typhoid fever. Their internal use was in most cases supplemented by the use of the cold bath, but as this part of the subject is not very different from that given by Liebermeister, I will not quote the latter in this connection.

The tabulated statistics that are given, showing the anti-pyretic effects of these remedies, I shall also omit.

Pneumonia in Children.

Dr. Monti, a docent of the University of Vienna, a lecturer

on diseases of children at the Poliklinik, and one of the very best teachers in this city, treats both catarrhal and croupous forms of pneumonia of children by giving to a child, one year old, teaspoonful doses of a one per cent. solution of the salicylate of soda every two hours. He envelops, at the same time, the chest and abdomen in large clothes wrung out of water of a temperature of 18.3° C., and changes these every one-half to two hours, according to the temperature. Expectorants of all kinds, he thinks are injurious, so long as the air vesicles are involved, and only uses them when the vesicles are no longer involved, and there is left simply bronchial irritation, with dryness of the mucous lining. In the

Typhoid Fever of Children

he gives, to a child six years of age, a teaspoonful every three hours of a three per cent. solution of the salicylate of soda.

If the temperature does not run higher than 38.3° C., he uses no other treatment except nourishment in a fluid form, and red claret wine in doses according to the tendency that exists to a failure of the heart's action. Whenever the thermometer in the axilla registers a temperature above 38.3° C., he then resorts to the use of cold packing with water ranging from 13° C. to 18° C. If the case be a more severe one, and the temperature runs as high as 40° C. to 40.5° C., he resorts to cold baths, putting the patient into water at 30° C., and then adding cold water to reduce it from 18° to 24° C. These baths are only used as long as the fever is very high, the patient being kept in them from 10 to 30 minutes, according to the time necessary to reduce the temperature.

Speaking of the effects of quinia in fevers (upon which subject the doctor remarked that the average physician was a maniac), he only gives the remedy in their later stages, and then in small doses as a tonic.

To illustrate in what manner quinia acts as an anti-pyretic, he related the following case: "I was called a few days ago in consultation with another physician to see a child aged ten years, suffering from typhus abdominalis. As the attending physician was fond of giving quinia in this disease, I finally consented that the patient might have 6 decigrams of the drug, divided into

three doses, and given at intervals of three hours, just before the exacerbation of the fever. The physician not understanding the metric system of weights (it having been introduced into Austria for only a few years), wrote his prescription for 6 *grams* instead of *decigrams*." Dr. Monti was called again soon after the child had taken the last dose, and found it as deaf as an adder, breathing heavily, and capable of being aroused only to semi-consciousness with great difficulty. The temperature was reduced to 35.5° C. in the axilla, though before the remedy was taken it was 40° C. Stimulants were given, cold was applied to the head, and warm applications to the feet, and after some hours the patient recovered from the effects of the drug. In this case, although there was such a marked reduction of temperature at the time, the following day the exacerbation of the fever was the same as before the remedy was given. The inference drawn by Dr. Monti from this case, as well as from an extensive trial of the drug in other cases of typhoid fever, is that quinia only acts as a *decided* anti-pyretic when given in doses that must be considered as *poisonous* in size, and that even when these doses are given daily, they exercise no influence in shortening the duration of the attack.

As bearing on this question of the anti-pyretic effects of quinia in this disease, I will give the following case from my own private note-book. During the fall of 1875, while we were having a severe epidemic of typhoid fever in Warren, Ills., I was called to attend the daughter, aged 13 years, of Mr. H——, a lawyer of that town.

The patient had enjoyed previous good health, and was large and well developed for her age.

The attack was severe from the outset, the temperature running to 40° C. after the first week, and rising to 40.5° C. after the middle of second, and was accompanied by marked cerebral disturbance. My plan has always been to combat vigorously a temperature that reaches or excels 40° C. For this purpose I usually wring cloths from water varying from 15° to 20° C., and envelop the body from under the axilla to the knees.

If the patient be an adult, the cloth used should be as large as a common sheet.

I direct that these cloths should be changed as often as every 15 to 30 minutes, until the temperature is brought down to a point that I consider compatible with the safety of the patient, say to 38° or 39° C.

To use this remedy requires considerable judgment on the part of the nurse, with whom I always leave a thermometer, so that my cold applications may be used intelligently.

As sometimes happens, the case above referred to was very sensitive to the application of the wet pack, and so after trying it in a rather unsatisfactory manner for a week, I determined to discontinue its use, and resort to quinia to fulfill the indications for which I had been using the cold water.

With this view I gave her 0.48 gram of the remedy at 4, 6 and 8 o'clock p. m., for three days in succession. The effect of the drug was to increase the nervous disturbance with my patient, without in the least lessening the temperature of the body, and finding her in every way worse at the expiration of this time, I fell back with renewed energy on my hydropathic treatment of the case.

From this time on I gave no medicine save a single dose of chloral-hydrate at night, kept the temperature down to 38.3° C., and my patient grew gradually better and made a good recovery, after a duration of the fever of eighteen days.

In Prof. Duchek's wards here in Vienna, to which, by the courtesy of his first assistant, Dr. Brenner, I have had free access at all times, the treatment of the milder cases of typhoid fever is entirely expectant.

The patient is given small doses of dilute sulphuric acid, but as this is their universally prescribed *placebo*, it must not be considered in the light of an attempt at medication.

One point in their dietetic rules here is worthy of note, and that is that no patient who has typhoid fever of even the mildest type, is allowed a single mouthful of solid food as long as he has any increase of temperature. Milk, soups and claret wine are used exclusively as nourishment.

When the case is more severe, and any treatment is considered necessary, either the salicylate of soda or quinia is given.

The former is preferred in the earlier stages of the disease, or

where there exists any marked tendency to cerebral hyperæmia.

The manner of prescribing the remedy is as follows:

Salicylate of soda	5
Syrup of raspberry	20
Water	200

Mix.

Give one tablespoonful every three hours during the waking hours of the patient, or from 14 to 16 hours out of the twenty-four.

When quinia is used, 1 gram is given in the twenty-four hours, usually in three doses, at 2, 5 and 8 p. m.

Cathartics are not given, the bowels being moved every three or four days by injections.

But it is to the manner of using cold water in these wards that I wish to call the attention of the reader, as it is entirely practicable, and its value such as after considerable experience I have verified in my own practice.

First, *baths* are entirely ignored.

The arguments against them, are: first, that their use involves an amount of discomfort to the patient, that is not compensated for by any additional advantage that they offer over the wet sheet. Second, in using them it is necessary to subject the patient to an amount of physical exertion that is likely to act deleteriously on the future course of the disease. In other words, they deem it essential that the patient should be kept as absolutely quiet as possible during the whole course of the fever.

If he be feeble, in the later stages of the disease, he is not allowed to rise upright in bed, even to evacuate the bladder or bowels.

This perfect quiet is supposed to retard the fatty metamorphosis in the muscular tissue of the heart and other organs.

Fever patients here are usually dressed in a single garment, open in front, reaching to the feet, somewhat after the fashion of a lady's night-dress. A rubber sheet is put over the mattress to prevent its becoming damp. When the temperature rises to a point that is thought to be unsafe, they resort to the cold pack, and use it in the following manner. The patient, being dressed as above indicated, a sheet is wrung out of water of a temperature

varying from 7.5° to 15.5° C., and in this his entire body is enveloped, and over this is thrown a dry covering. These sheets are changed every 10 to 20 minutes for from two to five times, a thermometer being kept constantly in the axilla to denote the fall in temperature that is required.

After the temperature has fallen, the patient's garment as well as his bedding is changed, for the sake of dryness.

By the assistance of two intelligent nurses, all this is accomplished with the least possible amount of exertion on the part of the patient.

If he be decidedly feeble, he is given either brandy alone, or milk punch before the wet sheets are used.

The advantage of the procedure above given is that it can be carried out easily in private practice, which is not the case with the cold baths as recommended by Liebermeister.

Pneumonia.

To illustrate the treatment of this disease here in Vienna, I will give the clinical history of the following case, which I watched carefully every day during its progress:

Anna H., a domestic, aged 24 years, was admitted to the Allgemeinen Krankenhaus, May 13th, 1878. Three days before, the patient was taken suddenly ill, her first symptoms being a well marked chill, which was soon followed by a severe pain in the right side. On admission, the right lung was filled with an infiltration, she was raising rusty sputa, and had all the symptoms of a well-defined case of pleuro-pneumonia dextra.

Her respiration was 24, pulse 100, temperature 39.4° C.

Cloths wrung out of ice water were applied to the right side.

Internally, she was given one gram of the salicylate of soda every four hours, each dose being immediately followed by a large draught of cold water. She was also given an infusion of digitalis, made by adding 1 gram of the leaves of the herb, to 200 grams of boiling water, of which one tablespoonful was administered every four hours.

From the 13th to the 16th the case remained nearly stationary; the pleuritic pains in the right side were very severe, but the

relief obtained by the application of the ice water was very marked indeed.

May 17th. Patient much worse.

Respirations, 45; pulse, 120; temperature, 40.5° C.

Physical examination showed the entire lower lobe of the left lung involved in a pneumonic process in the first stage, accompanied by a severe pleuritic pain in the same region.

May 18th. Patient still worse.

The lower lobe of the left lung was consolidated, and the upper lobe involved. Delirium, pulse 130, respiration 50, temperature 40.7° C. Digitalis and salicylate of soda were discontinued, and in their stead, quinia 30 Ctg. were given every six hours, combined with the free use of brandy. The entire chest, from under the axilla to below the ribs, was enveloped in wet cloths wrung from ice water which were changed every 20 to 40 minutes, depending upon the ease and tranquillity of the patient, as she called for them to be repeated as soon as they became warm.

May 19th. Respirations, 50; temperature, 40° C.; pulse, 125; patient still delirious. Prof. Duchek, who examined the case, and made it the subject of a clinical lecture, considered the prognosis as extremely grave, the only favorable symptom being a slight subcrepitant râle to be heard in the lower lobe of the right lung, showing a tendency to resolution. Patient was ordered increased dose of brandy, so that from 400 to 500 Gms. were to be given in the twenty four hours. The cold applications to the chest were vigorously continued.

May 20th. Patient better; temperature, 39° C.; pulse, 115; respiration, 25.

Stimulants lessened in quantity, cold to the chest hourly.

May 21st. Right lung nearly freed from exudation.

On account of the late involvement of the left lung, the patient had some fever until the 24th, from which date she rapidly convalesced.

I find here, both in fevers and in cardiac diseases, that digitalis is used only while there is a comparative vigorous circulation; in fact, to fulfill indications exactly opposite to those for which it is given by most physicians in the United States.

They use no counter-irritants to the chest in the hospital here, in cases of pleuro-pneumonia, but depend upon the cold cloths exclusively.

Expectorants are ignored, except to relieve a bronchial catarrh that may follow the lung complication as a sequel.

The favorite expectorant is a combination of sulphuric æther, syrup of liquorice and ipecac.

Editors Chicago Medical Journal and Examiner:

Ten or fifteen years ago, the journal-reading portion of the medical fraternity were aware of the existence of a live medical periodical, edited in Leavenworth City, by Dr. C. A Logan, a gentleman well known as one of the most eminent physicians west of the Mississippi. Connected with the geological survey of the new State of Kansas, his writings gave evidence of a mind trained by close observation of nature in her widest relations. It was a matter for regret when he ceased to use his pen, and disappeared beyond the horizon of our view. This present writer had long given him up for dead, when at length he appeared once more among the haunts of men—this time, upon the streets of Chicago—after a period not of suspended animation, but of honorable exile as minister of the United States resident in Chili. And now comes this modest little volume, in which our distinguished friend has embodied the ripe results of his observation and thought while dwelling in that far distant and little known land.

Finding himself in a country remarkable alike for its relics of ancient society, and for the physical conformation of its territory, the observing stranger was not long in discovering that even the forms of disease which are there prevalent exhibit the modifying influences of the peculiar conditions under which they occur. Certain diseases, notably the infectious diseases, are almost unheard of in Chili, while those that do occur, like typhoid fever and small-pox, present decisive symptoms of divergence from the European and North American type. Certain diseases seem to have originated spontaneously in that country, while others which

are epidemic in Europe and in North America, are either unknown or seem to lose in great measure their infectious properties when introduced among the people who inhabit the Pacific slopes of the Andes. An inquiring mind could not fail to busy itself with a search for the causes of such departures from the types of disease which prevail in other countries; and, accordingly, the doctor has in his little volume set forth his views regarding infectious diseases and their limited prevalence among the inhabitants of the western coast of South America. One of the principal causes of this peculiar immunity is by our author thought to be ozone. This substance is generated in great quantity by the electrical activity, to which he also refers the fearful earthquakes which agitate that portion of the continent. This hypothesis leads the doctor into a series of excursions, in which he sets forth pretty fully his belief concerning these appalling phenomena. We are treated to a chapter on force and energy, in which, though if this were a text book on physics one might regret the absence of the luminous definitions of a Balfour Stewart, the author's meaning is clear enough, and is in accord with the most advanced scientific thought of the day. This assertion may seem strange to the tyros in science, to the men of one text book, but no one can read far or think much without finding himself in the presence of just such problems as Dr. Logan has here brought up before the mind of the reader. The same thing is true of his chapters on the causation of earthquakes. This hypothesis will at once array against him all those who have only a slight acquaintance with the subject, and all those who are partisan exponents of rival hypotheses; but when one examines the literature of the subject, it appears that if one cannot fully agree with the doctor, he is certainly in very good company, and his observations are worthy of very respectful attention. The idea that certain earthquakes are the result of "subterranean lightning," has probably occurred to many observers who have watched the behavior of submarine cables before and after an earthquake shock—behavior which shows beyond question that tremendous electrical disturbance is a concomitant, if not the actual cause of the agitation of the soil. These observations are as yet in their infancy, and it is to be desired that our author may yet conclude to publish his own notes

in full, for it is only by careful accumulation and comparison of facts that we can hope to arrive at any degree of certainty regarding this much debated subject.

Having thus cleared the way, our author asserts that in those parts of South America "where the *earthquake energy* is most strongly and constantly developed, the existence of large number of infectious diseases which devastate other parts of the world is unknown; and * * that in such portions * * alone as possess a rainfall during a limited part of the year, are any of these diseases to be observed; and then, perhaps, as a rule, after the winter earthquake has passed." He then disposes of the objection that the isolation of that quarter of the globe may act as a protective quarantine, by showing that direct communication with other countries is now so speedy and constant that isolation no longer exists. The only facts capable of influencing the case, then, are atmospheric aridity, and a highly electrical condition of the earth and air. This at once suggests the idea, that, if bacteria and other similar aerial organisms are the causes of infectious diseases, perhaps the dryness of the air is sufficient to prevent their existence, and so to prevent the occurrence of those epidemic diseases which have been supposed to be caused by their development. But investigation has convinced our author that these microscopical organisms are as abundant in Chili as in other parts of the world; consequently, he draws a conclusion unfavorable to the bacterian theory of infection. The remaining portion of this division of the book is devoted to a brief but interesting sketch of the sanitary peculiarities and prevalent diseases of the Pacific coast of America, a sketch which makes one regret that the author had not devoted a larger space to this part of his subject.

The second half of the volume is occupied with what may correctly be called the Physics of Infectious Diseases. The author here boldly attacks the problem of the origin of such diseases, and the method of their development and propagation. It is here that he is at his best. It is upon this field that he has earned his right to a place among the foremost medical philosophers of our day. This proposition I am ready to maintain, in spite of certain errors of detail into which he may have been

betrayed. For example, when one considers the existence of lowly animal forms without a nervous system, the assertion of our author, that "animal life begins in the central nervous axis," seems too exclusive. After a certain stage of evolution has been attained, there is a sense in which this proposition is true; and in its application to the human animal the doctor has on his side such thinkers as President Porter, and some of the ablest men who ever lived. This whole chapter on the Ideal Function of the Nervous System, will undoubtedly arouse a great deal of dissent, much of which, however, will be found to grow out of the difficulty of following so abstruse a discussion when presented in so condensed a form. In like manner, the author, in his chapter on the source of Animal Heat, allies himself distinctly with those philosophers who recognize the existence of a *vital force* which is different from, yet capable of strict correlation with the ordinary physical and chemical forces. To such condensation of expression, however, has he restricted himself in this chapter that probably nine-tenths of his readers will fail to appreciate its real significance. It is this magnificent endeavor after compactness of form and terseness of utterance which forms one of the greatest obstacles to the success of this book as a literary adventure. This, however, is a fault which it shares with the very best of company, so the author must not be discouraged if his work cannot vie in popularity with the latest periodical literature. In fact, it often seems as if those minds which are best adapted to attract popular attention to their work are the least fitted to grapple with the great problems of nature, and are the most likely to rest contented with the shallowest theories of the universe. It is, therefore, positively refreshing to meet with one who has the courage, and the knowledge and the insight necessary to enable him to rank himself with the minority in opposition to the fashionable heresies of the day. This our author does, placing "himself in direct antagonism to those ultra chemists who maintain that there is nothing peculiar in organic chemistry, and that its actions are subject to the same laws as those governing inorganic matter; and who attempt the proof of the correctness of this view by their ability to construct some compounds belonging to the animal body outside of the operation

of its peculiar laws." The important results of the chemist "in this direction only prove the existence of a force presiding over the methods of vital chemistry which renders him impotent to construct such eminently vital products as urea; not to speak of the characteristic structures of a healthy body, as muscle, flesh, blood, nerve." Here the doctor may be thought to have laid himself open to attack, for the whole army of small chemists is unwearied in its self-glorification over the artificial production of a body isomeric and isomorphic with urea. The difference between the vital chemistry of the animal cell, and the synthetic chemistry of the laboratory becomes apparent when these two substances are subjected to the action of polarized light, and are found to behave differently in its presence—thereby justifying Dr. Logan in his position.

The same logical subtlety and penetration is evident when the doctor enters upon the discussion of the various theories of fermentation which have been put forth. As might be expected, he sides with Liebig against that arrant sciolist Pasteur; and, after reviewing the hypotheses of bacterial infection, and contagious bioplasts, he brings the reader through a course of masterly reasoning to the conclusion from which there is no escape, that the cause of each infection resides in a specialized molecule, born of abnormal molecular movements in the living tissues of the body, and capable of impressing its unhealthy modes of molecular motion upon other molecules with which it may be brought in contact. This he calls "the infectious molecule." This is the portable agent which may find its way from one body to another, sometimes needing to ripen in the soil of the earth or under water on its way; never reproducing itself like a living "germ," but always potent to disturb every adjacent molecule of protoplasm, and often able to impart that peculiar energy to such adjacent molecules until every particle of animal body may have become thus endowed with the modes of motion and properties characteristic of the original infectious molecule. This is a great conclusion. It is the only one logically possible in the present state of science, and yet it is by no means the fashionable theory of the day.

One of the greatest hindrances to the establishment of sound

medical doctrine in these times consists in the fact that so few of the leaders of medical opinion are qualified to form an independent opinion upon a subject like this. Consequently, the majority of physicians are at the mercy of the least little upstart microscopist, who may happen to infest a popular German University. Witness the lamentable delusions now current regarding diphtheria and similar diseases. Witness the crowds of people who go astray in the wake of Pasteur and Lister, and Tyndall and other "blind leaders of the blind." This little book, however, gives encouraging evidence that all have not yet "bowed to the knee of Baal," but that there still remain a chosen few who will yet bring back the medical host to its rightful allegiance. This must necessarily be a tedious undertaking, for, unfortunately, the men who most need the corrective influence of this pregnant little volume, are precisely the very men who will never even make the effort to read beyond its title page.

HENRY M. LYMAN.

AN OPEN LETTER TO THE BRITISH MEDICAL JOURNAL.

MY DEAR BRITON :—In the number of your valuable journal, dated June 8, 1878, I find an article on the Menstrual Secretion, written by George Harley, M. D., F. R. S., to which the following note is appended :

"This article is writen acording to the new method of speling words without encumbering them with needles duplicated consonants."

On consulting further the two columns devoted to the subject named above, I find Fallopian printed *Falopian ;* call, *cal ;* attention, *atention ;* offered, *ofered ;* will, *wil ;* err, *er ;* better, *beter ;* all, *al ;* correct, *corect ;* and similar changes in every word which we have been accustomed to spell with duplicated consonants.

This admirable innovation comes to us across the Atlantic from the country which first taught us the spelling of our common language, and illustrated its form in the pages of Addison, Cole-

ridge, Shakespeare and De Quincy. It comes, too, from the people who have habitually sneered at any orthographical change effected by Americans. I have therefore read with an interested surprise the remarkable composition of George Harley, M. D., F. R. S., and have ventured to ask you the several questions given below, upon the answers to which will largely depend an adoption of the "new method" which you have so ingeniously presented:

1. When Dr. Harley writes: "in order that the points * * *shal* be made perfectly clear," does he mean, "*may* be made perfectly clear"; or was Lord Macaulay in error when he declared that "not one Londoner in a thousand misplaces his, shall"?

2. When Dr. Harley writes: "*likely* to have their orifices ocluded," does he mean, "*liable* to have their orifices occluded;" or is the distinction between these words "an Americanism"?

3. When Dr. Harley writes: "The condition of things then found was carefuly delineated in water-colors, by a profesional artist, and stil exist in all their pristine exactitude," was he guilty of gross vulgarity and violation of the simplest rules of English grammar, or are these possibilities contemplated by the "new method"?

4. When Dr. Harley writes "presumedly" for "presumably," did he coin the word; or find it in some dictionary which has not yet crossed to these shores?

5. When Dr. Harley writes, "contrast to," for "contrast with," I desire to know if he perpetrated a Briticism?

6. When Dr. Harley writes that "the menstrual fluid consists of three *parts;*" I long to know how many "parts" have such other fluids as bile and urine.

7. When Dr. Harley writes: "although not then fuly conscious of the invaluable specimen;" was he simply not aware of its great value, or was he really rendered semi-unconscious by his "axident"?

8. When Dr. Harley writes: "and, although the woman's organs of generation had nothing whatever to do with the question of suspended animation—as I was at the time in question lecturing to the students of University Colege, on the subject of reproduction—after finishing the necropsy in as far as the patho-

logical apearances of drowning were concerned;" I am anxious to learn whether the "new method" requires one to place his phrases as promiscuously as if they were discharged from a pepper-pot.

Many other questions are suggested by the perusal of this singular article, but I conclude with,

9. Is it well for us to make radical changes in the orthography of our mother tongue before we have learned how to write it with accuracy? In short, shall we strain at a cacography and swallow a grammar?

You are, my English cousin, the accepted journal of the British Medical Association, published in a great centre of British learning, and read probably by the larger part of the whole number of British practitioners. You have, lo, these many years, trained your batteries of criticism on medical works of American origin, and as often condemned them, even when they were of great practical value, on account of trifling blemishes in literary finish. Therefore, I cannot but regard you as of high authority in these matters. And, in the midst of my labors, which are divided between the practice of physic and the protection of my saddlebags from the attacks of the Indian and the buffalo, I write in the hope that you will enlighten my ignorance.

Fraternally yours,

HUNTINGTON THOMAS.

CHICAGO, June 27, 1878.

ELASTIC CRAYON OF NITRATE OF SILVER.—M. Pajot takes a laminaria tent, two millimeters in diameter, dips it into thick mucilage, and then rolls it in finely powdered nitrate of silver, and allows it to dry. He thus obtains an elastic crayon, of the ordinary size, which may be introduced into the uterus without fear of breaking. He believes this means to be applicable to other cavities, and for other more powerful caustics.

Reviews and Book Notices.

HOUSE DRAINAGE AND WATER SERVICE IN CITIES, VILLAGES AND RURAL NEIGHBORHOODS, WITH INCIDENTAL CONSIDERATION OF CAUSES AFFECTING THE HEALTHFULNESS OF DWELLINGS. By James C. Bayles, editor of *Iron Age* and *The Metal Worker*. Pp. 351, cloth. Published by David Williams, 83 Reade St., New York, 1878.

This work is the practical development of an extensive correspondence and discussion in *The Metal Worker*, of questions pertaining to sanitary engineering. It was not, however, until the author became aware of the necessity of such a work by the appreciation on the part of plumbers of his two papers read before the Public Health Association of New York, on house drainage, that he resolved on publication. Were our words likely to reach the plumbers, we should recommend this work to them in terms of the highest commendation. But naturally it is more with reference to the relation which it bears to the profession, that we consider the volume.

The object which the author sets before him is well expressed by the title of the book, and whether we refer to the chapter on sewer gas, waste and soil pipes, traps and seals and the ventilation of soil pipes, the chemistry of plumbing, or sanitary construction and drainage of country houses, we find that the author is at once comprehensive, lucid, concise and eminently practical. He justly deprecates the niggardliness which is too frequently displayed, even by men practical on other points, when the question of plumbing is the subject of consideration; and shows the results of such supposed economy in the frequent repairs necessitated in the actual plumbing, and the unavoidable and often

incomprehensible continuation of ill-health and untimely death. To show the importance of the work which Mr. B. has undertaken, we need only refer the reader to the very important report of the Officer of Health for Glasgow, which he read before the Philosophical Society of Glasgow. This paper appears in full in the *British Medical Journal* for May 11, 1878, and shows unmistakably the relation between the waste-pipe service of the houses and the prevalence of diphtheria and enteric fever. We only regret, since reading Mr. B.'s book, that the construction of the traps in the Health Officer's report were not more definitely recorded.

Mr. Bayles' remarks on the action of the different kinds of water on lead cannot fail to be interesting to practitioners; it might even be said that those who remain ignorant of such facts are positively culpable.

The following extract gives Mr. Bayles' own experience in the matter of earth-closets (p. 272):

"From personal experience, and after the severest test which I could devise, I can recommend the earth-closet as the best, cheapest and most generally satisfactory of indoor commodes for country houses.

"There are several forms of earth-closets in the market. From $20 to $25 is the price of one made after the most approved pattern, with a capacious hopper, and an arrangement for discharging a fixed quantity of earth into the receiver. Those who are able and willing to pay this price will get a good article, with full directions for its use and care. For the benefit of those who are not, it may be said that a convenient earth-closet can easily be made at a small expense, and without infringing anybody's patents, by any person with intelligence enough to build a hen-coop. The writer's experience in building and managing an earth-closet may not be without interest. It was made of pine boards in the shape shown in Fig. 26, being simply a box with two covers and no bottom. The under cover, which served as the seat, was hinged to the edge of the box, and the upper cover was hinged to the lower, so that they could be easily raised, singly or together, as desired, without interfering with each other. Under the seat, and standing upon the floor, was placed a galvanized

iron coal-hod. A tin pail full of dry, sifted earth stood beside it. When two or three inches of earth had been sprinkled upon the bottom of the coal-hod, the earth-closet was ready for use. The whole cost of the apparatus, including a large coal-hod, did not exceed $3.50, but it was as satisfactory as one could be. A small shovelful of earth was thrown in when the closet was used, and it was perfectly free from unpleasant odor, though it was daily used by several persons. The only attention it needed or received was to empty the hod when full.

"A somewhat more convenient shape for the box would have been to make it long enough to admit of partitioning off one end for an earth reservoir, as shown in Fig. 27. This would dispense with the pail for holding the earth, and render the whole apparatus complete in itself." R. T.

DEFECTS OF VISION. By Robert Bradwell Carter, F. R. C. S. McMillan and Company, London, publishers, 1877.

This is another happy effort of the author of a work on Diseases of the Eye, published in 1875. It is in the form of lectures, six in number, delivered before the Royal College of Surgeons of England, and is notable for its directness of purpose, the brief, yet thorough manner in which this subject is treated, and for the practical value of its contents.

The first two lectures definitely mark "the chief features of the three great factors of sustained vision—refraction, accommodation and convergence."

The dioptric system, the metric system in its relation to lenses, is explained, showing an advantage for it over the old system of inches, in the absence of fractions in necessary calculations, and in the greater regularity of the intervals between the series of lenses. It offers, too, a wider range of lenses, admitting of any useful combination. The author suggests that in prescribing glasses fitted by the French trial lenses, marked in inches, the prescription is for glasses in French inches, whereas the optician fills it by English measurement, thus giving rise to mistakes easily prevented by the new system.

He calls special attention to the difference between the terms *range* and *region* of accommodation; *range* meaning the *power*

of accommodation; *region*, "the limits of space within which the *range* is exercised."

The remaining four lectures are given to the consideration of presbyopia, myopia and hypermetropia, astigmatism, and asthenopia, the principal forms of "conditioned vision."

The subject of astigmatism is treated intelligibly, and is made very simple. All questions which perplex instead of assisting us are excluded. About one page of the volume is devoted to a thorough description of all the varieties of astigmatism, with the figures illustrating the subject. *Multum in parvo* seems to be the ruling principle.

The author is fair in giving to American ophthalmologists credit for what they have done, a rare thing in European writers.

The book is interesting, and one who reads it finishes with two feelings: the *first* is one of satisfaction that so much available knowledge is to be found in so small a compass; the *second* is a regret that more of the books written are not like it in brevity and excellence.

It is an octavo volume, which the publishers have sent out printed in clear, large type, on tinted paper, and neatly bound.

S. O. R.

SYNOPSIS OF THE DISEASES OF THE LARYNX, LUNGS AND HEART, COMPRISING DR. EDWARDS' TABLES ON THE EXAMINATION OF THE CHEST, WITH ALTERATIONS AND ADDITIONS. By F. DeHavilland Hall, M. D., London. J. A. Churchill, London, 1878.

This little book contains in a very concise form, and arranged in a manner easily available for the student, the information which usually fills a large volume. It is a chart for the student and practitioner, which will at once refresh their memories and point out thoracic disease in an unmistakable manner. In it the regions of the chest with their contents, and the physical signs of health and disease are so tabulated that their value may be appreciated at a glance; and the symptoms and signs of various diseases are compared, so as to make diagnosis easy.

A Practical Manual of the Diseases of Children, with a Formulary. By Edward Ellis, M. D., late Senior Physician to the Victoria Hospital for Sick Children, etc., etc. Third edition; pp. 390. Lindsay & Blackiston, 1878.

A very excellent little work, characterized by short yet faithful descriptions of disease. A book not large enough to contain all which might be said in regard to diseases of children, or indeed to treat any one disease in an exhaustive manner, but rather a work in which the great majority of children's complaints are truly and vividly portrayed with a practical, and, in the main, recent treatment. The author's aim, as expressed in his preface to the first edition, is certainly realized. It is "concise" and a "handy book of reference." The writer of this review has carefully read the book and will faithfully maintain his proposition with regard to its exceeding usefulness. A few, from the many very excellent sections will be briefly noticed, and with the earnest desire to aid the author in producing a perfect book, if another edition should ever be needed, we will venture a few suggestions.

The chapter on general management and diet is remarkably good and contains some suggestions which we have not noticed in other and larger works. In the list of foods for infants, however, we do not notice oatmeal; a fact which excites some surprise, for it certainly has an established reputation in babies' dietary.

The section on apnœa is hardly as complete as one could wish, the sthenic and asthenic varieties not being sufficiently differentiated to guide an inexperienced practitioner. In dressing the navel we are advised, as of old, "to wrap it in a piece of soft linen in which a hole has been made for it to come through." A more elegant procedure, and one equally safe, is to follow the directions of Prof. Goodell, of Philadelphia.

The description of malarial diseases in this work, and indeed in most books on diseases of children, will not suffice for this climate. We not only have an *intermittent*, but we have a *remittent* form of fever due to malaria, which is neither typhoid or associated with the typhoid condition. And we, perhaps, may say here, as well as at at any other place, that remittent fever in children is the disease above all others which we are liable to confound

with the first stage of tubercular meningitis. The author of this work speaks only of typhoid fever as a disease liable to be confounded with this terribly fatal meningeal inflammation.

The distinction between croup and diphtheria is very fully given, and, while recognizing the high authority of those who urge their identity, our author remains unconvinced. He confesses a family likeness between not only diphtheria and croup, but scarlatinous sore throat with patches of exudation. The asthenia, epidemy, and marked contagiousness of the first, compared with the sthenic, sporadic, and doubtfully contagious character of the second, are believed to mark two maladies. The use of the bichromate of potash is highly spoken of in diphtheria. The section on diseases of the heart is excellent. The chapter devoted to diseases of the food passages and abdominal organs. contains much which is valuable, although we must be allowed to differ with the author's classification and express surprise that so much space, comparatively, is given to gastritis, a disease of very rare occurrence, and such brief mention made of those very frequent and formidable diseases of children, indigestion and entero-colitis. The number of American vegetable remedies suggested and recommended is remarkable.

A few errors remain even in this third edition. The phrase "weak Condy's fluid lotion" appears two or three times; the word *when* is omitted at line 22 p. 287, and finally Dr. Eustace Smith is made to describe the "tongue of worms." C. W. E.

PRACTICAL CHEMISTRY FOR MEDICAL STUDENTS. Specially arranged for the First M. B. Course. By M. M. Pattison Muir, F. R. S. E., Prælector in Chemistry, Gouville and Gains College, Cambridge. London: Macmillan & Co. Chicago, Jansen, McClurg & Co. 1878. Cloth, pp. 64. 60c.

This is a little laboratory aid, and as such will be found very useful. We think it might have been made more serviceable by the introduction of formulæ. The bases are arranged in five groups, and the acids into six. The appendix contains the application of the various tests in a tabulated form, together with the tests for a few of the alkaloids. R. P.

BOOKS AND PAMPHLETS RECEIVED.

House Drainage and Water Service in Cities, Villages and Rural Neighborhoods; with Incidental Considerations of Causes Affecting the Healthiness of Dwellings. By J. C. Bayles, Editor of "*The Iron Age*," etc. Cloth, pp. 360. New York: Published by David Williams, 83 Reade street. 1878.

Lessons in Laryngoscopy; Including Rhinoscopy and the Diseases of the Throat. By Prosser James, M. D., M. R. C. P., Lecturer on Materia Medica and Therapeutics at the London Hospital; Physician to the Hospital for the Diseases of the Throat, etc., etc. Second edition, with colored plates. London: Balliere, Tindall & Cox, 20 King William street. Cloth, pp. 176. 1878.

Antagonism of Alcohol and Diphtheria. By E. W. Chapman, A. M., M. D., formerly Professor of Materia Medica and Therapeutics, etc., etc. Cloth, pp. 98. Union Argus Steam Printing Establishment. Brooklyn. 1878.

Ninth Annual Report of the State Board of Health of Massachusetts. January, 1878. Cloth, pp. 529. Boston; Rand, Avery & Co., printers to the Commonwealth, 117 Franklin street.

Practical Chemistry for Medical Students. By M. M. Pattison Muir, F. R. S. E., Prælector in Chemistry, Gonville and Gains College, Cambridge. London: Macmillan & Co., 1878; pp. 64, cloth. 60c.

Lectures on Clinical Medicine; Delivered in the Royal and Western Infirmaries of Glasgow. By Dr. McCall Anderson, Professor of Clinical Medicine in the University of Glasgow. With illustrations. London: Macmillan & Co., 1878. Cloth, pp. 264. $3.00.

Insanity in Ancient and Modern Life; with Chapters on its Prevention, By Daniel Hache Tulne, M. D., Fellow of the Royal College of Physicians. London. London: Macmillan & Co., 1878. Cloth, pp. 226. $1.75.

A Practical Treatise on Aural Surgery. By H. Macnaughton Jones, M. D., M. Ch., F. R. C. S. I. and Edin. Philadelphia: Lindsay & Blakiston, 1878. Cloth, pp. 172.

Manual of Operative Surgery. By Lewis A. Stinson, B. A., (Yale) M. D. With 332 illustrations. Philadelphia: Henry C. Lea, 1878. Cloth, pp. 477. $2.50.

Nervous Diseases, their Description and Treatment. By Allan M'Lane Hamilton, M. D., Fellow of the New York Academy of Medicine, etc., etc. With fifty-three illustrations. Philadelphia: H. C. Lea, 1878.

The Atlantic Islands as Resorts of Health and Pleasure. By G. S. W. Benjamin, Author of "Contemporary Art in Europe," etc., etc., etc. Il-

lustrated. New York: Harper Brothers, 1878. Cloth, pp. 274, $3.00. Jansen, McClurg & Co., Chicago.

Visions; a Study of False Sight. By Ed. H. Clarke, M. D.; with an introduction and memorial sketch by Oliver Wendell Holmes, M. D. Houghton, Osgood & Co., Boston, 1878. Chicago: Jansen, McClurg & Co. Cloth, pp. 315 $1.50.

Towne's Manual of Chemistry, Theoretical and Practical. Revised and Corrected by Henry Watts, B. A., F. R. S. A new American from the twelfth English edition. Edited by Robert Bridges, M. D., Professor of Chemistry in the Philadelphia College of Pharmacy; 177 illustrations. 1878. Philadelphia: H. C. Lea. Chicago: Jansen, McClurg & Co. Cloth, pp. 1027. $2.50.

Transactions of the American Gynæcological Society—Vol. II, 1877. Cloth, pp. 697. $6.50. Houghton, Osgood & Co., Boston. Jansen, McClurg & Co., Chicago.

Proceedings of Chicago Society of Physicians and Surgeons, 1874. Presented by Chicago Society of Physicians and Surgeons.

Sanitary and Medical Reports for 1873–4, by the Officers of the U. S. Navy. Prepared for publication under the direction of the Surgeon of the Navy. By H. C. Nelson, M. D., Surgeon to the U. S. Navy. Washington: Government Printing Office: 1875. Pp. 818. Presented by Chicago Society of Physicians and Surgeons.

Catalogue of the Library of the Surgeon General's Office, U. S. Army. 3 vols. Washington: Government Printing Office; 1874. Presented by Chicago Society of Physicians & Surgeons.

Cyclopædia of the Practice of Medicine. Ziemssen. Vol. XIII. Diseases of the Nervous System. New York: Wm. Wood & Co., 28 Great Jones street. Chicago: W. T. Keener, 94 Washington street.

Do Phosphureto de Tinco Sua Acçao Physiologico et Therapeutica. By Dr. D. A. Martins Costa. Rio de Janeiro, 1877.

Zur Behandlung der Blutungen nach Abort. Von Paul F. Mundé in New York.

Treatment of Chronic Aural Discharges. By Julian J. Chisholm, M. D. Read before the Baltimore Academy of Medicine. Revised from *North Carolina Medical Journal*, May, 1878.

On the Necessity of Caution in the Use of Chloroform During Labor. By W. T. Lush, M. D. New York.

Report on Monomania. By D. A. Morse, M. D., London, Ohio, 1874.

A Case of Vaginal Ovariotomy. By William Goodell, A. M., M. D., Philadelphia. Reprint from Vol. II, Gynæcological Transactions, 1878.

Case of J. W Finley, with Autopsy of the Brain. Read before the Iowa

State Medical Society, Iowa, Jan. 30, 1878. By Walter Hay, M. D., Dubuque, Iowa.

Amputations and Excisions of the Cervix Uteri; Their Indications and Methods. By J. Byrne, M. D., M. R. C. S. E., etc., etc. Reprint from Vol. II, Gynæcological Transactions, 1878.

Relative to the Work of Health Officers and of Local Boards of Health in Michigan. Circular No. 28, from the State Board of Health of Michigan.

Relative to Notices of Diseases which Endanger the Public Health; Duties of Householders, Physicians and Others. Circular to Supervisors and other Officers of Townships, from the State Board of Health of Michigan.

Atlas of Skin Diseases. By Louis A. Duhring, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part III. Philadelphia: J. B. Lippincott & Co. Chicago: Jansen, McClurg & Co.

Du Petit Lait et du Lait dans la Phthisie Pulmonaire. Par Charles Paul Simon. Presented by Chicago Society of Physicians and Surgeons.

Einiges über Apoplexie. Presented by Chicago Society of Physicians and Surgeons.

Certain Symptoms of Nervous Exhaustion. By George M. Beard, Fellow of the New York Academy of Medicine, etc., etc. Read before the New York Academy of Medicine, April 4, 1878. Reprint from *Virginia Medical Monthly*, June, 1878.

The Illinois State Medical Register, 1878–9. Published annually under the supervision of the Chicago Medico-Historical Society, with the co-operation of the Illinois State Medical Society. Chicago List. Editor, D. W. Graham, A. M., M. D. Chicago: W. T. Keener, 94 Washington st.

Neuralgia and its Modern Therapeutics. By James A. Baird, M. D., Atlanta. Reprint from the Transactions of the Medical Association of Georgia.

The Functions of the Anal Sphincters, So-called. By James R. Chadwick M. D., Boston. Reprint from Vol. II, Gynæcological Transactions, 1877.

Cases of Double Uterus and Vagina. By James R. Chadwick, M. D. Read before the Obstetrical Society of Boston.

Transactions of the South Carolina Medical Association. Twenty-seventh Annual Session, held in Charleston, S. C., April 10 and 11, 1877. Charleston, S. C.: Edward Perry, Printer. Presented by Dr. Manning Simons.

Higher Medical Education the True Interest of the Public and of the Profession. An address introductory to the 112th course of lectures in the Medical Department of the University of Pennsylvania, delivered Oct. 1, 1877, by William Pepper, A. M., M. D, Professor of Clinical Medicine. Published by order of the Board of Trustees and at the request of the medical class.

Summary.

Collaborators:
Dr. H. Gradle, Dr. L. W. Case, Dr. R. Park,
Dr. R. Tilley, Dr. D. R. Brower.

Physiology.

Action of Heat and Cold on the Organism.—P. Delmas. (*Bull. de l'Acad. de Médecine, No.* 22.)

The author communicated to the *Académie de Médecine*, session of May 28th, a paper on this subject, of which the following is a résumé:

1st. Pending the administration of a cold douche, preceded or not by the use of heat, made at the temperature of 10° C. to 25° C. and of a duration from 30 seconds to five minutes, the central temperature of the body and that of the intermediary zone *are not at all or but very little lowered.*

2nd. While rest during the hours after administration of cold water does not facilitate the pretended reaction admitted by authors, and although the subject feels only a very moderate degree of heat, or of coolness, and sometimes even chills, the temperature of the central and intermediate parts lowers very little, or rises and passes that felt before the douche; the rapidity of the heart increases and the arterial tension remains very high.

3rd. Exercise following a cold douche has the true physiological result of bringing on persistent reduction of temperature and even a diminished rapidity of pulse and lowering of arterial tension.

4th. Under the influence of a cold application, the maxi-

mum and minimum of rapidity of the heart correspond to the maximum and minimum of arterial tension.

5th. After the application of a cold douche, the subject in reality cools, and his temperature lowers while he feels a sensation of heat, or, on the contrary, it rises or remains stationary when he has chills.

PHYSIOLOGY OF THE PANCREAS.—Affanassien and Pawlon. (*Pflüger's Archiv.*—Note in *Lancet.*)

The authors reasoned by analogy that this gland received special excitory fibers as well as a vaso-motor system of nerves. The existence of the latter is indubitable; that of the former they proved thus: control experiments made by testing the juice just after feeding and during fasting, showed that the secretion of fluid and solid constituents is due to two different processes, governed by two sets of nerves, by one of which the chemical work is regulated. Resorting to Heidenhain's plan, they injected atropine, and the secretion was either checked or inhibited. They consider this positive evidence of the existence of secretory nerves. They next proceeded to enquire whether, admitting the accuracy of Bernstein's statement that irritation of the vagus inhibited the pancreatic secretion, this inhibitory influence is due to direct action, or is referable to the pain caused by stimulation of the nerve. Their experiments satisfied them that sensory irritation of the skin was capable of inhibiting the secretion of the pancreas.

PRACTICAL MEDICINE.

SEA SICKNESS. Laederich. (*L'Année Médicale.*)

In answer to an anonymous writer, who speaks ironically of the application of collodion as a remedy against sea sickness, Dr. Laederich, a French army physician, strongly advocates its use, citing well marked cases in defense of his recommendation. He does not pretend to explain the theory of its action, but sees in it a resemblance to the belt which has been used in many cases to advantage, and is frequently recommended by sailors. Dr. L.,

moreover, looks upon an application of collodion over the epigastrium as a powerful anti-emetic in general, having used it and seen it used in several cases with decided benefit. He imagines that it would thus prove curative as well as preventive of sea sickness.

His method of using it is as follows; Before embarking the traveler should apply, with a soft brush, three successive layers of collodion containing castor oil, over the region of the epigastrium, being careful to pass beyond its anatomical region. As directions to his patients, he maps out the region thus: A horizontal line directly above the umbilicus; on the right and left two vertical lines, about five centimeters beyond the nipples; above, following the curve of the sides, and extending about three or four centimeters above the border. He further recommends those about to take a long voyage to take a supply of collodion with them.

The Nursing of Children.—(*La France Médicale*, p. 357, 1878.)

La Société de Médecine Pratique, through Dr. Brochin, lays down the following rules for the nursing of children:

1. The mother's milk is incomparably the best food for the infant.

2. A wet nurse is preferable to any kind of artificial nursing.

3. Artificial nursing should not be resorted to except in the impossibility of a supply from the mother or a wet nurse.

4. The nursing of a child, unless it is absolutely impossible, should take place in the house where the parents live, whether it is a question of wet nursing or artificial nursing.

5. When labor is completed, a rest of several hours is necessary for the mother. If she is capable of nursing her child, she should give it the breast from five to six hours after the termination of labor.

6. One or two teaspoonfuls of warm water, just a little sweet, should be given the child soon after birth. This practice clears the mouth and throat of mucus and facilitates the discharge of the meconium.

7. It is very desirable from the beginning to regulate the hours for nursing.

8. For the first fortnight it is not desirable to put the child to the breast, or to feed it, oftener than every two hours, and not less often than every three hours.

9. The child should be accustomed to nurse as little as possible during the night. Six or eight hours of uninterrupted sleep being necessary to both mother and child. The physician should decide when it is necessary to infringe on this and the preceding rule.

10. The two breasts should be given to the child alternately. This rule should be observed although he may manifest a decided preference for the one.

11. In case the milk of the mother or nurse is not sufficient, the breast and artificial nursing must be adopted.

12. Cow's milk must be employed fresh without ever being boiled.

13. It is customary for the first week to dilute the milk with three times its volume of water; during the rest of the month with one-half water; from the end of the first month to the end of the sixth month with one-quarter its volume of water; from the end of the sixth month to give it pure. For practical purposes it is sufficient to calculate the quality of the milk by the lactometer.

14. Whatever proportion of milk is used, it is desirable not to sweeten or salt it but very lightly. It should not be prepared but at the time when it is about to be given. It should be heated by placing the bottle in warm water until it has acquired a temperature of from 38° to 40° C.

15. The state of the stools of the child being the best sign of the digestion, it is very important that they should be examined every day. If they are thin, a little more milk should be added; if greenish, grumous, and if they contain undigested milk, the water should be increased.

16. The addition of anything in the way of a narcotic (syrup of poppies, soothing syrup, etc.) to the food is decidedly dangerous, and should be absolutely forbidden without the advice of a physician.

17. Only after the seventh month should the mother's milk or that of the wet nurse be insufficient, is it desirable to supplement the breast with boiled preparations of starch, such as the physician may recommend. This additional food should contain milk as the principal article. It should be always flavored with a little salt and less sugar.

18. Artificial feeding should be subject to the same general principles as the natural nursing.

19. Bottles provided with long tubes which necessitate the child to suck too long, and to cool the milk in its passage, should be discarded and short ones used.

20. Gum drops (suçons) which are frequently placed in the children's mouths to appease their crying, are dangerous, and should be absolutely forbidden.

21. When the child has satisfied its appetite, the bottle and tube should be cleaned immediately, taking its several pieces apart, washing each separately, first in warm, then in cold water.

22. Milk should form the child's food almost exclusively until the first twenty teeth have made their appearance.

23. The weight of the child constitutes one of the surest signs of the adaptability of the food used.

24. Weaning should never take place without the advice of the physician. The usual time for this is between the age of 12 and eighteen months. It is desirable to choose a time when the child is not harrassed by teething, and as far as possible to avoid the period of great heat.

25. The changing of the wet nurse does not endanger in the slightest degree the health of the child.

Action of Urea in the Blood.—MM. V. Feltz and E. Ritter. (*Archives Générales de Médecine*, June, 1878).

The authors give the result of experiments demonstrating that pure urea never determines convulsive accidents. Urea, injected into the blood is eliminated very rapidly by the urine, and when it exists in considerable quantities in the organism, it does not undergo, as is generally believed, a rapid transformation into carbonate of ammonia.

Dogs, which have been injected with urea, after tying the renal

vessels to prevent rapid elimination of the poison, did not present convulsive accidents more pronounced than others in which the same vessels had been tied without injecting urea. The convulsions observed after injection of urea were produced by an impure article containing salts of ammonia.

The authors offer the following conclusions: 1st. Pure urea, artificial or natural, injected into the venous system in very large doses, never produces convulsions; it is eliminated very rapidly by the secretions.

2d. There are, in normal blood, no ferments which convert urea into salts of ammonia; the rapidity of elimination cannot be regarded as the cause of this non-conversion, for one may, by suppressing the renal secretion, retard the elimination of urea without hastening the appearance of convulsions.

3d. The ureas, which in large doses caused convulsions, were always impure, containing ammoniacal salts, the presence of which is easily proven by the reagent of Nessler.

Spermatorrhœa and Impotence Caused by Tape Worm. —Houzé. (*Journal de Médicine et Chirurgie Pratique*).

M., 28 years old, has always led a moderate life; no abuse either alcoholic or venereal; never suffered from any affection of the genital organs, health has always been good and functions normal.

In the month of June, 1877, M. perceived that his erections were incomplete; fifteen days afterwards, absolute impotence.

He consulted a physician who prescribed a stimulating diet and some pills. No benefit. Soon after he was afflicted with frequent nocturnal emissions resulting in a very decided lassitude. Defecation caused an expulsion from the meatus of a liquid which was probably prostatic.

His strength diminished rapidly and he became very despondent.

At the expiration of two months he arrived at Paris where a specialist cauterized the prostatic portion of the urethral canal. This was followed by a somewhat violent inflammation. For eight days a mixture of blood and pus was discharged from the

urethra. The purulent discharge ceased, but the impotence and the spermatorrhœa persisted.

Houzé saw the patient Nov. 17, 1877. His color was pale; air, sad: eye, restless; speech, spasmodic; respiration, frequent and irregular. Nothing abnormal with the lungs; a slight anæmic murmur was heard at the heart; no pain in the spinal column; catheterism of the canal easy. The finger introduced into the rectum gave no indication of enlargement of the rectum. The inguinal regions revealed nothing abnormal.

Occipital headache; flying pains in the chest; sight diminished and indefinite; moving spots visible; eyelids disturbed with spasmodic twitchings; pupils dilated; hallucinations both of sight and hearing.

He decided to treat him according to symptoms, and prescribed a good nitrogenous diet, iron, cinchona wine, and for the impotence the following pills:

Powdered nux vomica,.....	50
Ext. of gentian (sufficient).....	
Make ten pills. Take two a day.	

Eight days after, he was rejoiced to inform us that his impotence had disappeared. We continued the same treatment and give in addition a cold douche; allow moderate coition.

The following week, same state and same treatment continued.

Lallemand found in a great number of observations spermatorrhœa to have been the result of intestinal parasites—ascaris vermicularis, and lumbricoides, which disappeared under the influence of anthelmintics.

A decoction of 60 grams of pommegranate bark taken fasting, and three hours later, 30 grams of castor oil brought away five meters and a half of tape worm in several pieces. The following night M. had three polutions.

Since this period the seminal losses have disappeared, the erections are normal; and under constitutional treatment the general vigor appeared forthwith; the sight was restored immediately and the disposition became gay as usual.

The urine examined by the microscope Feb. 5, 1878, did not reveal spermatozoa. In fact, M. at this time was quite cured.

From this it appears that the cause of all these symptoms was the tape worm which had not caused any disturbances of the digestion.

On Some Forms of Chronic Catarrh of the Stomach. Wm. B. Neftel. (*Medical Record*, June 8, 1878.)

The doctor concludes his article with the following propositions:

The local effects of chronic catarrh are—

1. Fermentation in the stomach (butyric acid) with evolution of gases (inflammable) and formation of fatty acids (butyric, lactic, acetic.)

2. Dilatation of the stomach (gastrectasia) and impairment of its peristaltic movements.

3. Stagnation of the food in the stomach and atonic condition of the bowels.

4. Gastric pains and vomiting.

The general effects of gastric catarrh are emaciation and general anæmia from the defective nutrition of the system, especially anæmia of the brain, causing vertigo and other cerebral symptoms.

The diet of those affected with chronic gastric catarrh, though simple and easily digestible, must not be too uniform, and pure water can be used *ad libitum*.

The principal indications in treatment are—

1. To arrest the fermentation by anti-fermentatives, chlorine, fresh prepared according to German pharmacopœia, thymol (very small doses) salicylic acid, hydrochloric acid, etc.

2. To treat the gastrectasia and the atonic condition of the bowels with induced currents. (The "fluctuating induction current," by aid of broad flat electrodes applied to remote portions of the stomach, with the intensity of the current gradually increased from minimum to its maximum, and after several seconds duration again diminished to its minimum. This is repeated fifteen to twenty times in succession, with a pause of several seconds between. The "tetanizing induction current," by applying the broad electrode to one portion of the stomach, the current being of maximum intensity, and suddenly pressing a smaller electrode against the opposite portion for several seconds, then

suddenly removing it, and, after a short interval, repeating the process for fifteen or twenty times.)

3. To excite the secretion of a healthy gastric juice by the use of alkaline waters before meals (Vichy, Carlsbad), small doses of rhubarb (gr.i four times a day); bitter remedies, etc. (nux vomica, etc.)

4. To improve the digestive properties of the gastric juice by the administration of hydro-chloric acid, not only to dyspeptics but also to anæmic persons generally. A. H. F.

The Connection between Pruritus Vulvæ and Diabetes.—Wiltshire. (*Lancet*, Apr. 13.)

The author calls attention to the frequent association of diabetes with pruritus vulvæ, and the desirability of examining the urine of patients suffering from this annoying malady. Aside from the itching, there may be no other symptom of diabetes, and it is not surprising, therefore, that the true condition is overlooked. In his cases, the most successful treatment for the local symptom was a simple borax lotion.

Treatment of Obstinate Hiccough.—Favier. (*La France Médicale*, May 1st, '78.)

The author reports a very obstinate case of hiccough which persisted for fifty days, resisting all treatment, and which was finally cured by compression of the epigastrium. The instrument employed was Petit's tourniquet, and the hiccough ceased five minutes after its application. At first suspension of compression was followed by return of the complaint, but finally it disappeared altogether.

Case of Intestinal Obstruction Cured by Injection of Gas.—Aribund. (*Lyon Médical*, *No.* 21, 1878.)

The patient, a dyspeptic, after hepatic colic, had for four days been suffering from symptoms of intestinal obstruction; alimentary and bilious vomiting, no fæcal matters, intestinal pains, total absence of stools, or of gas by anus, abdomen tympanitic, but slightly painful, slight fever; his physician had vainly given several purgatives; baths had been tried and ointments and cata-

plasms to the abdomen. Croton oil was tried without effect, and the author advised the injection of gas by means of a long canula attached to an artificial seltzer water apparatus. The canula was introduced deeply and at the moment of entrance of the gas the patient felt, as had been expected, a sensation of something tearing inside, accompanied by pain so violent as to cause him to jump out of bed. At the end of some seconds the pain moderated, he lay down, and twenty minutes afterwards, an abundant escape of gas put an end to these alarming symptoms. There remained but a slight amount of gastro-intestinal irritation, the consequence of the purgatives he had taken.

Surgery.

Artificial Emphysema as an Aid to Operation.—(*Archives de Méd. Navale*, No. 2, 1878.)

Dr. Roucière resorts to this measure to dissociate and isolate the different layers of superficial or deeper tissues, for the purpose of facilitating operations, such as discovery of vessels, enucleation of tumors, strangulated hernia, etc. In the hospital of Bûenos Ayres it is thus performed: The skin is perforated with a trocar in the vicinity of the site of operation; to the canula is attached a suitable air pump apparatus. The tissues in the neighborhood are compressed, to avoid undue diffusion of the emphysema, and sufficient air driven in to distend the cellular tissue to the desired degree. The process is said to be free from bad results.

Compression of the Common Iliac.—Davy (*Br. Med. Jour.*, May, 18, 1878.

An account of a new method of compressing this vessel is related by Davy in a clinical lecture on amputation at the hip joint.

The rectum being empty, an enema of sweet oil was given. Then a smooth, straight, round lever of wood was introducep into the gut, the small end applied over the common iliac between the lumbar bodies and *psoas magnus* muscle, the projecting part

of the lever being nearly parallel to the opposite thigh. The artery is easily compressed by elevating the projecting arm of the lever, the perinæal tissues acting as a lever. By this means the pulsations of the femoral may be caused to cease.

This is a less serious measure than compression of the abdominal aorta, the general circulation is far less disturbed, a simple straight lever suffices for apparatus, and no danger results to the rectum if the lever have been properly used. Mr. Davy also demonstrated how this method of compressing the iliacs, or even the aorta, might be utilized in many operations of pelvic surgery.

Amputation of Penis.—Stocks.—(*Br. Med. Jour.*, May 18, 1878.)

At the April meeting of the Manchester Medical Society, Mr. Stocks described a new method of operating, as follows: A narrow bladed knife is passed between the corpora cavernosa and the corpus spongiosum about an inch behind the diseased part and the former bodies divided directly upwards. The knife is then placed in the bottom of the wound and carried directly forward about four lines, and then diagonally forwards and downwards, forming an inferior flap. The urethra in this locality is then freed from the corpus spongiosum and slightly loosened from its attachments. The skin flap is turned upwards, a small button hole made in it through which the loosened urethra is drawn by forceps and so held until the flap is adjusted and secured. The cut end of the urethra is afterwards stitched to the edges of the button hole. Any redundancy of integument forms an admirable foreskin to protect the tender urethral orifice, and is easily drawn back so as not to form impediment to micturition.

Mr. S. exhibited a case in which this method had proved quite successful.

Nerve Section for Elephantiasis. — Morton. (*Phila. Med. Times*, Jan. 19, 1878.)

Dr. Morton, during December, '74, tied the femoral artery of a colored patient suffering from an extreme case of elephantiasis arabum. The patient was discharged in March much benefited.

He returned, however, Nov., '77, for further treatment, desiring an amputation, the leg measuring 21 inches in circumference. Having noticed the frequency with which nerve section is followed by atrophy of parts supplied by that nerve, Morton determined to attempt the production of artificial atrophy in this case. Accordingly the right sciatic was laid bare, and an inch and a half of its length exsected from the upper part of the thigh.

No untoward symptoms followed. There has been a steady diminution in size ever since, and the thick skin has desquammated, leaving soft pliable skin beneath, while there has been no tendency to ulceration.

This is, so far as known, the first conception and performance of this comparatively simple means of effecting relief in a most troublesome and loathsome malady.

New Method of Treating Varicocele.—Bradley. (*Br Med. Jour.*)

The author explains his process as follows: Pass a long and strong hare-lip pin between the veins and scrotal walls, bringing the point close beneath, but not through, the scrotum; then make the point retrace its course, but passing now behind the veins until it emerges near the puncture through which it entered. The varicocele may thus be effectually compressed, and the veins obliterated.

Abortive Treatment of Bubo.—Malplaquet. (*L' Union Médicale, No.* 53, 1878.

By means of vesicant fluid, the epidermis is removed the size of a franc over the seat of the swelling. Upon this denuded surface a piece of lint is laid, soaked in a saturated solution of bi-chloride of mercury, and over the whole is laid a flaxseed poultice, which is left on about twenty-four hours. At the end of this time a gray eschar is seen, and after the poultices have been applied two or three days, there only remains a slight depression with granulated surface which heals readily by simple dressings. The mercurial lotion gives sharp pain for a short time, but in twelve cases treated in this way the best of results have been obtained.

Osteo-myelitis during Growth. M. Lannelong. (*Bull. de l'Acad. de Méd. No.* 22).

1st. The affection described by authors under the names of acute necrosis, acute periostitis, phlegmonous, epiphysiary osteitis, etc., is in reality acute osteo-myelitis.

2d. The long bones are most exposed to it, but the short bones are also exposed.

3d. In the long bones the primitive seat is found in the line of union of the diaphyses with the epiphyses; the cartilage remains intact in 15 to 20 per cent. of the cases.

4th. One of the earliest consequences is a separation of the periosteum with subperiostic abscess.

5th. Parallel with the necrosis and thinning of the bone, a work of reparation takes place which ends in the formation of a new bone.

6th. Articular complications do not always exist; their appearance renders the prognosis of the affection more grave.

7th. When the diagnosis is established, trephining is the only method of which the opportunity and the indications are undeniable.

Drainage of the Bones in Necrosis and Osteo-Myelitis. Armand Deprés. (*L'Union Médicale, May* 23, 1878, p. 787.)

1st. In osteo-myelitis with spontaneous fracture of the long bones, whenever the articulations are intact, the limb should be preserved by the aid of an incision reaching to the bone, according to the precepts of Smith, Broca and Gosselin, by removing constrictions over the abscesses and by passing in a drain to the seat of fracture through the open abscesses around the bone.

2d. The drain should be left in place a year, so as to place the central necrosis of the bone in the condition of a superficial necrosis, at the bottom of a wound of the integuments with loss of substance.

3d. The drainage of bones affected with osteo-myelitis, like disarticulations practiced in the same conditions, as an operation which may be done while the patients have fever; but the grav-

ity of the drainage, equaling that of an opening of an abscess, is less than that of disarticulation, and aside from other reasons should cause the drainage to be preferred.

Ergotine in Strangulated Hernia.—(*L' Union Médicale du Canada, June* 1878, p. 262.)

Two cases of strangulated hernia successfully treated with ergotine are reported in *Bordeaux Médicale* (author's name not given). In both cases other means had failed, and an operation was contemplated.

The skin over the tumor was first washed with an alkaline lotion to facilitate absorption, and then annointed with pure ergotine every two hours, at the same time tablespoonful doses of a solution containing ℥iss of ergotine to ℥iv of the vehicle, were given every hour. Four or five hours after beginning treatment the vomiting and pain lessened and the tumor diminished, and in twelve hours the hernia reduced itself. The author attempts no explanation of the mode of action of ergotine in these cases, but recommends further trial.

Application of Ligatures after Castration.—Novel method of performing phimosis.

In the surgical section of the Parisian Academy of Sciences, under the Presidency of M. Tarnier, the general subject of ligation after the removal of the testicle was discussed. Four of the six surgeons who took part in the discussion, gave their opinion decidedly in favor of the separate ligation of the vessels. The objections urged to the tying *en masse* were:

The danger of tetanus; tumefaction of the cord, and the greater time that elapses before the ligature becomes disengaged.

In the same section, Dr. Hue, of Rouen, read a paper on the performance of phimosis by an elastic ligature. He passes a needle, armed with an elastic thread, through the prepuce at the base of the glans penis on the dorsal surface; then ties it, comprising in the ligature that part of the prepuce in front of the perforation. In three or four days, says M. Hue, the section is complete. There is very little pain. He has seen the operation

performed in all, eighteen times, and it is equally applicable to children or adults. In point of æsthetics, says M. Hue, the final result is more elegant.

Obstetrics.

Injection of Morphine in Incoercible Vomiting of Pregnancy.—Chabalier. (*Lyon Médical*, No. 22, 1878.)

The author describes an aggravated case of this affection, in which after the unsuccessful use of all the known means, he resolved to make use of hypodermic injections of morphine before the last resort, abortion. The patient was two and a half months pregnant. He injected the first time a little less than 0.016 Gm., which was followed by almost immediate relief; vomiting ceased and the patient was able to retain porridge, the first time in two months. But after the effect of the morphine had worn away, vomiting recommenced three or four hours after the injection. He continued its use, however, in doses of a little more than a third of a grain ($2\frac{1}{2}$ centigrams) morning and evening for two months, until the first movements of the child were felt. After each injection the patient was able to eat a tolerably good meal of soups, vegetables, meats, etc., and keep them sufficiently for maintaining nutrition. Vomiting came on several hours after the injections, but food was not vomited. On two occasions, wishing to suppress the morphine, and hoping that the moral effect would suffice, the author tried once pure water, and another time cherry laurel water; both times, although ignorant of the deception, the patient immediately vomited the food she had taken. Another time two drops of a one per cent. solution of atropine was used instead, which determined the most painful nervous excitement, which lasted all day, and aggravated the vomiting. At the end of four months and a half, on suspending the injections, the patient suffered all the effects of morphinism. For three days and nights she was in an indescribable state of agitation and excitement. There was absolute insomnia, and incessant involuntary movements of the limbs and body. At

the end of this time all ceased, and the pregnancy pursued its normal course without accidents. Labor was natural, and the child presented no appearance whatever of having been affected by the action of the morphine.

The author has since tried this plan of treatment in two cases less severe, with the same success. He is convinced that if the method be courageously resorted to, not fearing the dose injected, the physician will not find himself disarmed before so grave an affection.

Eclampsia Relieved by Intra-venous Injection of Hydrate of Chloral. (*Ampiteatro Anatomico.*)—M. Bellmunt having failed to relieve a patient suffering from eclampsia by the internal administration of chloral hydrate, obtained speedy relief from an intra-venous injection of from 0.50 to 1 Gm. A dead fœtus was removed by forceps the same night but the mother made a good recovery.

Gynæcology.

The Influence of the Uterus in Eye Diseases. Swanzy. (*Obstetric Journal*, May, 1878.)

The author read a paper with this title before the Obstetric Society, of Dublin. The first disease which he mentioned, as probably having its cause in the uterus, was iritis, occurring in girls from the eleventh to the seventeenth year. He had seen but few cases, but in these few he could trace no other cause; iritis is extremely rare at this age, unless depending on syphilitic or corneal diseases, and he had never seen similar cases in the male. In all these cases there was little or no pain, vascular injection or photophobia. The anterior chamber usually remained clear, and there was no deposit upon the cornea, but there was a tendency to formation of posterior synechia. Indications that the ciliary body and the choroid were implicated were also present. The affection was slow, difficult to cure, and apt to recur. The gravest uterine symptom he had discovered was insufficient menstrual flow.

Retinitis and optic neuritis may depend on disturbances of menstruation. Mandelstamm, Von Graefe and Mooren had seen such cases, and he was of the opinion that retroflexions and ovarian tumors might play a role in their ætiology.

Retinal appoplexies are sometimes the consequence of cessation or suppression of the menses. Liebreich had described and figured such cases, and the author had observed them.

Atrophy of the optic nerve had been repeatedly noted by Pagenstecher as occurring in women who suffered from severe menstrual disturbances.

That form of asthenopia called kopiopia hysterica must now be considered as simply a symptom of uterine disease. Förster had described it at length and Freund had invariably found *post mortem* that pathological uterine lesions accompanied it. Patients complain of inability to use their eyes for near work owing to darting pains, and these pains are augmented by any depressing circumstances; they are troubled with photophobia, especially of artificial light at night. No organic disease of the eye exists, but hypermetropia or insufficiency of internal recti may mislead the surgeon. The eyes are never injected, there is no swelling of the lids, no epiphora; such patients have good and bad days, and before and during menstruation such symptoms are more severe. According to Freund the uterine lesion was a chronic inflammatory process attacking the parametrium, sometimes producing atrophy of that tissue with various displacements. The course is a long chronic one; painful regions are often found in the pelvis, and there is more or less venous congestion of the vagina, with chronic metritis, catarrh and ulceration. The best treatment is attention to the general health.

Besides the five affections metioned above as apparently depending on uterine derangement, it was probable that others might be mentioned, but the author did not wish to fall into the error of regarding every eye disease as dependent upon such derangement merely because it happened consentaneously.

Salicylic Acid in Leucorrhœa. (*L' Union Méd. du Canada*, June, 1878.)

In the *Revue Medico-Chirurgicale* of Buenos-Ayres, Dr. Y.

P. recommends the use of salicylic acid in this affection. The author says he has employed injections of the acid with completely satisfactory results for chlorotic women of lymphatic constitution, in vaginitis, in discharges from the uterine mucous membrane in which the irritant fluid produces erosion of the neck and vulvar inflammation. His formula is the following: salicylic acid 6 Gms., glycerine 100 Gms. Dissolve over water bath and add a liter of water (for six injections, one a day).

In case of uterine leucorrhœas an irrigating apparatus should be employed so as to project a small quantity into the uterus. The solution of the acid should be complete, otherwise the undissolved crystals might be irritating. The glycerine facilitates solution.

In a case that had resisted other treatment, a tampon of cotton, soaked in a two per cent. solution of salicylate of zinc was left in the vagina 24 hours, after which a one per cent. solution of the same salt, containing a little morphine, was used three times a day for a week, by injection, and followed by complete cure.

Ophthalmology.

Drainage for Detached Retina.—Cohn. (*Deut. Zeit. f. Pr. Med.*)

The author gives a summary of our knowledge and treatment of this disease. Arlt and others have tried to cure it by piercing the sclerotic. Graefe did this and divided the retina. But inflammation is liable to follow either of these measures. Pressure and confinement in a dark room occasionally yield good results. In 1877 Wecker suggested the introduction through the sclerotic, and under the retina of a gold thread as a means of drainage. In four cases Cohn has tried it, and with excellent results. As soon as the retina becomes attached again, perception is restored, and this has happened even after a lapse of three years; the perception of space only, however, and not that of color. In no case was any inflammation aroused, or any harm done; nor does the method interfere with other treatment.

Materia Medica and Therapeutics.

The Explanation of Morphia Myosis.—Picard. (*Med. Press & Circ.*, May 22, '78.)

At a recent meeting of the Biological Society of Paris, Picard attributed the contraction of the pupil under the influence of morphia to paresis of the sympathetic; for if the submaxillary gland is bared, and a small vein opened, the flow of blood is increased after an injection of the drug. Hence he concludes that it produces diminution of power of the great sympathetic.

Alcohol.—Carpenter. (*Br. Med. Journ.*, May 18, '78.)

For the subject of the annual oration before the Medical Society of London, Dr. Alfred Carpenter, the orator, selected the important topic of Alcoholic Drinks, in their various relations. We abstract the following points, relating principally to their physiological action.

In reply to the often asked question whether force can be produced by the ingestion of alcohol, after a careful review of both sides, he takes the affirmative, seeing no other explanation of the fact that many lives have been prolonged for months without other nourishment than that contained in spirituous liquors. He alluded to the fact that when dilute solutions of about the strength in which it would be found in the body, say 1 to 1,000, are passed through six inches of silicated carbon filter, the alcohol is metamorphosed into complex products, especially glycol, which should be considered one of the saccharine group. If this be a possible contingency, it may be transformed into force in the human economy under certain unknown circumstances, and as such be useful without danger as a luxury.

He inclined to the belief that the statements that alcohol acts upon the blood corpuscles and on the fibrin of the liquor sanguinis, were true. It is said that 1 part to 500 of blood interferes with the power of the blood to absorb oxygen (hence the purplish color of countenance of the bloated drinker); that it abstracts water from the blood-discs, and makes them adhere,

and that it causes coagulation of the plastic elements of the blood, which thus collects in the capillaries, while the current may even thereby be stopped.

By such means the free administration of alcoholic stimulants to the weak or debilitated, especially after hæmorrhage, etc., has led to embolism; or a clot would rapidly form in the heart, and the patient die. Such cases of embolism may get better, provided their alcohol be discontinued. Observation also shows that the elimination of carbonic dioxide is decreased after the imbibition of alcohol. These are undisputed facts with reference to large doses, but it does not follow that the weaker drinks, such as wine or beer, must cause such results.

It appears to be true that when once the system has been exposed to the full influence of alcohol, such as to cause results as above, then, but not till then, a cumulative action may begin; an action which shall develop an instinctive desire for more.

According to its dilution, alcohol passes rapidly through membrane, acting upon it in its passage; it is thus quickly conveyed to all parts of the system, and we cannot predicate where it will produce its first effect. Slight changes in the blood and tissues are not noticed, but when the altered blood corpuscles attain a certain percentage of the whole number, evil must result. Coagulated fibrin may be removed in small quantities, but it will soon gravitate, if not removed, into some organ, and impede circulation, giving thus the impetus to grave organic changes.

Alcohol invariably reduces temperature; an intoxicated man whose temperature is normal, or above normal, should be regarded as having some organic disease to account for it.

Referring to the after effects, he laid special stress on the alteration of tissues and accumulation of waste products, thus giving rise to various symptoms ascribed to, or diagnosed as neuralgia, rheumatism, rheumatic gout, spinal irritation, etc. If those cases of so-called rheumatic pains, which are relieved by the use of stimulants, were persuaded to drop them, and abstain entirely, their pains would, after the lapse of a few weeks' suffering, vanish entirely.

The principles of treating cases of alcoholism are, besides imperative self-control, first, restoration of digestive power—a

difficult and tedious matter; then the restoration of the altered glands and tissues to their normal condition. The hallucinations and delusions which often accompany the disease are associated with capillary dilatation; and, as a sequence, there is pressure on nerve substance, with risk of subsequent atrophy or degeneration.

Those cases of fever which require alcohol in their treatment are marked by dry tongue and skin, and no indication of cerebro-spinal lesion. When a case is benefited by it, there is soon a lessened temperature, slower pulse, moister tongue and generally quieter condition.

Temporary administration may be resorted to when the surface has been chilled, or the powers of life weakened so that the heart is inadequate for its work. Its action then is like taking the pendulum off the clock—the spring is able to work so much faster.

The speaker concluded with the remark that alcohol was a good medicine, but a poor diet, and its action as a poison, visible in all ranks of society.

The Action of Scilla. — Huseman. (*Deutsche Med. Wochens.—Practitioner*, May, 1878.)

While squill is one of the oldest known remedies, its mode of operation is still unknown. No alkaloid has yet been extracted from it, but it yields a substance resembling digitalin, which retards the action of the heart, without any inflammatory action upon stomach or intestines. Its emetic action it possesses in common with all cardiac poisons. In frogs it first induces slowing of the pulse, then arrest of the ventricle, arrest of the auricle and complete loss of irritability of the heart. The cord, nerves and muscles retain their excitability so that the animal can leap. In warm-blooded animals the double action characteristic of cardiac poisons is exhibited—upon the inhibitory nerves and upon the cardiac muscle itself. At the commencement of its action, it strengthens the heart's action, like all cardiac poisons (digitalis, etc.), and hence its diuretic action. It also at first increases arterial tension, and is therefore contra-indicated when this condition exists. The author never observed any trace of

kidney inflammation, or anything which might suggest that squill was a direct stimulant to these organs. He was also unable to observe any indication of its possessing an expectorant action. In former times the dose was much larger than at present.

THE ACTION OF POTASSIUM SALTS.—Buchheim. (*Med. Chir. Rundschau.—Practitioner*, May, 1878.)

The action of the potassium salts differs much according to their diffusibility, the nitrate being readily diffusible, the sulphate and bicarbonate least so. With regard to the most easily diffusible salts, they overcome the arterial pressure of the capillaries of the stomach, causing the blood-corpuscles to accumulate in them, so that ecchymoses occur, or gastritis. These symptoms are less marked during digestion, or when the salts are in a state of dilution. The less diffusible salts pass into the small intestine, where they induce peristalsis, and are eliminated only after partial absorption. The sulphate forms the transition between the two groups. Potassium carbonate in large doses acts as a caustic on the mouth and stomach; in the stomach is converted into a bicarbonate, and only acts as an aperient when the intestinal mucous membrane is very sensitive.

According to investigations, the ashes of blood serum contain only sodium salts, of blood corpuscles only potassium salts, while those of the albuminous tissues contain chiefly the latter; so that the amount of potassic salts circulating in the blood is small, and all that is not combined must be quickly excreted by the kidneys. Hence the ingestion of considerable quantities must have marked effects—these are retardation of the heart-beats and final arrest in diastole. In frogs, muscular contractility is abolished, the excised heart stopping quickly in dilute potassium solutions—more slowly in those of sodium salts. The paralysis of the heart observed after injections of potassium salts is not a specific effect—as according to Podcopaew; but the direct action upon the first muscle with which they come in contact. Certain nerve-centers are similarly paralyzed with the muscles, in consequence of similar chemical composition. Death occurs, at times, however, before the occurrence of recognizable changes, because slight disturbance of these organs is enough to endanger life.

INDIAN HEMP IN MIGRAINE. (*L'Union Médicale du Canada, from Nice Médicale.*)

M. Seguin employs this remedy with success. The principle of this treatment consists in maintaining the nervous system under the slight influence of this medicine for a long time, as with the bromide in epilepsy. Two centigrams of the alcoholic extract are given to women before each meal. With men one may begin with three centigrams, finally four. In more than half of the cases the patients have been considerably benefited; some were completely cured. It may be said in conclusion, that Indian hemp has upon migraine the same influence that the bromide has upon epilepsy.

DR. M. MANNHEIMER, of Chicago, has accomplished results in the treatment of whooping cough, which are of interest when considered in connection with an article on the same subject which we publish on another page. Dr. Mannheimer has employed intralaryngeal insufflations of a fine powder, composed of equal parts of the sulphate of quinine and white chalk. In nine cases the results were as follows:

No.	Age.	Stage.	No. of Applications Daily.	Duration of Disease.	Remarks.
1..	5 years...	Spasmodic	1	5 days.	
2..	5½ years.	Spasmodic	1	6 days.	
3..	7 years...	Spasmodic	1	4 days.	
4..	6 years...	Spasmodic	2	7 days.	
5..	12 years...	Catarrhal .	2	7 days.	
6.	16 years...	Spasmodic	2	4 days ..	Syncope with each parox.
7..	4¾ years.	Catarrhal .	2	6 days.	
8..	5¼ years.	Catarrhal .	2	7 days.	
9..	6¾ years.	Spasmodic	2	8 days.	
				54 days.	

It will be seen that the average duration of the disease, under this treatment, was six days.

Items.

THE LAST ISSUE of the *Cincinnati Lancet and Observer* announces the consolidation of that journal and *The Clinic*. The combination will be known as *The Cincinnati Lancet and Clinic* and will be under the control of the efficient editors of the two journals: Dr. J. G. Hyndman, of the *Clinic*, and Dr. J. C. Culbertson and Dr. T. M. Stevens, of the *Lancet and Observer*.

TO SUBSCRIBERS.—We frequently receive letters announcing that a certain number of the JOURNAL has not been received and, on referring to our books, we find that the subscriptions of the writers of these letters have not been paid. Of course mistakes will occur and some of our subscribers who have paid, may occasionally be overlooked; but if every one would look at his receipt before sending for missing numbers, and to such intimation add the amount of his subscription, it would greatly facilitate the business of the publishing office.

THE TRADITIONS OF THE PAST are fast dissolving in the retorts of the modern investigator. And now come Foersch, Horsfield and others who show that the upas tree (antiaris toxicaria) is far from possessing the deadly qualities which it has so long possessed in English metaphor. The pestiferous influences which it was once supposed to exert, really originated in the sulphurous and other vapors emitted from the volcanic regions in which the upas tree is discovered. It is true that the branches, flowers and inner bark of the young trees may excite itching of the skin when handled, and the dried juice mixed with other ingredients, forms the poison in which the natives of the Indian Archipelago dip their arrows. Travellers have, however, considerably exaggerated the effects produced by wounds from these medicated darts. It is quite certain that the statements are gross exaggerations which describe the plant as growing in a desert tract with no other plant near it for ten or twelve miles, criminals offered a

pardon if they would collect its poison, the ground in its vicinity strewn with the bones of those who ventured too near, and the destruction of birds, fish, and vermin within a large area over which the effluvium of the upas tree was supposed to extend.

The *Pacific Medical and Surgical Journal* says: "Chicago must be a paradise for ignorant druggists. The Chicago Medical Journal tells of one who pursued the business of a druggist in order to sell liquors, and who dispensed strychnine instead of arsenic, nearly killing the person who took it. * * * What is the Chicago College of Pharmacy about?"

The Chicago College of Pharmacy, we believe, is about its own business, and is nowise responsible for ignorant druggists in *Dover*, Ill. This is the name of the place given by us in connection with the above story. It was not Chicago, for here such sham druggists could not live twenty-four hours.

Karl Rokitanzky, Professor of Pathological Anatomy at the University of Vienna, died at Vienna on the 23d of July. Rokitanzky was born in Kœniggrætz, Bohemia, February 19, 1804. Having received a liberal education at his native place, he studied medicine in Prague and Vienna. At the latter place he graduated in 1828, established himself as "Privatdocent" in 1832, was made *professor extraordinarius* in 1834, and elected *professor ordinarius* of pathological anatomy in 1844. His professorship gave him the full control over the dead-house of the Vienna General Hospital, where vast material offered a rare opportunity for scientific researches. How well he has understood to utilize this material is shown by his numerous contributions to medical journals, but chiefly by that standard work on morbid anatomy which carried his fame all over the world. This "Handbook of Pathological Anatomy" was published in Vienna, between 1842 and 1846, in 3 volumes, translated into English by the Sydenham Society, 1845 to 1850. Rokitanzky is the founder of the "New Vienna Medical School," which justly attracted numerous students from all parts of the globe, for seldom one school can boast of such a galaxy of names as Rokitanzky, Skoda, Oppolzer, Hebra, Schuh, Dietrich, Hamernjk and others.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Aug. 5 and 19.
West Chicago Medical Society—Mondays, Aug. 12 and 26.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 3 p. m., Ophthalmological, by Prof. Holmes; 3 to 4 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 to 3 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2:30 p. m., Dermatological and Venereal, by Dr. Hyde.

TUESDAY.

Mercy Hospital—2 p. m., Medical, by Prof. Hollister.

WEDNESDAY.

Mercy Hospital—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—4 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Mercy Hospital—2 p. m., Medical, by Prof. Davis.
Rush Medical College—1:30 p. m., Neurological, by Prof. Lyman.
Eye and Ear Infirmary—2 to 3 p. m., Ophthalmological, by Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, Prof. Gunn.
Chicago Medical College—2 p. m., Surgical, by Profs. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

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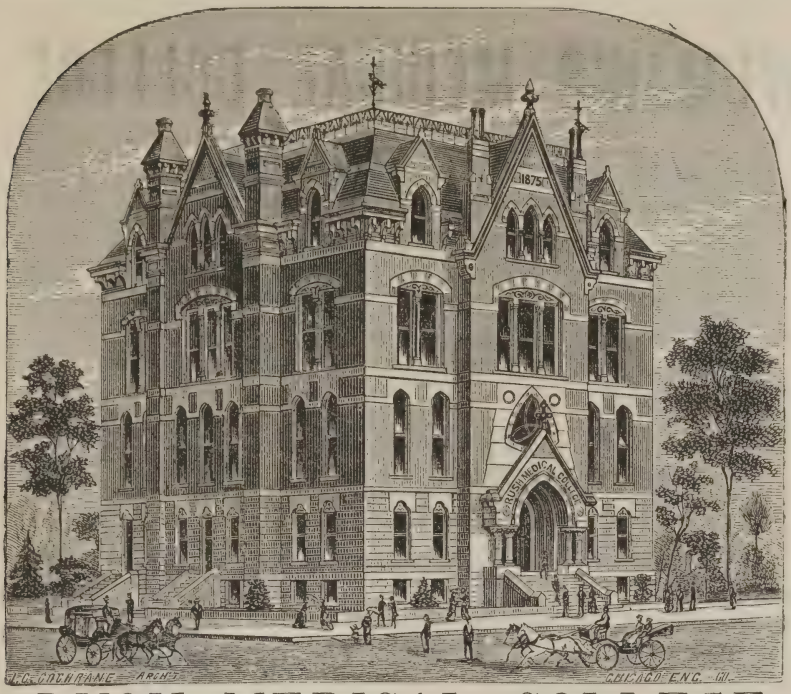
Each course occupies nine months of the year, and is divided into two terms.

THE FIRST TERM (Spring) commences on the second Monday of March, and continues till the fifteenth of June.

THE SECOND TERM (Winter) commences on the first day of October, and continues till the first Tuesday in March following.

The college commencement occurs at the close of the Winter Term. For circulars or other information, address,

JOHN H. HOLLISTER, M. D., Secretary,
No. 73 Randolph Street, Chicago.



RUSH MEDICAL COLLEGE

The Thirty-Fifth Annual Course of Lectures will commence on Wednesday, October 3d, in the new College Building, and continue TWENTY-ONE WEEKS.

FACULTY:

J. ADAMS ALLEN, M.D., LL.D., Professor of Principles and Practice of Medicine, PRESIDENT.
DELASKIE MILLER, M.D., Professor of Obstetrics and Diseases of Women and Children.
MOSES GUNN, M.D., A.M., Professor of Principles and Practice of Surgery and Clinical Surgery.
JOSEPH P. ROSS, M.D., Professor of Clinical Medicine, and Diseases of the Chest.
EDWARD L. HOLMES, M.D., Professor of Diseases of the Eye and Ear.
HENRY M. LYMAN, M.D., Professor of Physiology and Diseases of the Nervous System.
JAMES H. ETHERIDGE, M.D., Professor of Materia Medica and Medical Jurisprudence.
CHARLES T. PARKES, M.D., Professor of Anatomy.
WALTER S. HAINES, M.D., Professor of Chemistry and Pharmacy.
FRANCIS L. WADSWORTH, M.D., Adjunct Prof. of Physiology.
A. B. STRONG, M.D., Demonstrator of Anatomy.

The Dissecting Room will be kept open during the entire season.

FEES.

Lectures, $65; Matriculation, $5; Hospital, $5; Graduation, $25.

For further information with reference to the College, address the Secretary,

DR. JAMES H. ETHERIDGE,

603 Michigan Avenue, CHICAGO.

WOMAN'S MEDICAL COLLEGE

OF THE

NEW YORK INFIRMARY,

128 SECOND AVENUE, Cor. 8th St.,

NEW YORK.

Regular Session of 1878-'79 will open October the 1st. A thorough course of three years' instruction by Lectures, Clinics, and practical work in Laboratory, Drug-room and different wards of the Infirmary.

For Catalogues, etc., address the Secretary of the College.

MERCY N. BAKER, M. D.,
128 Second Avenue, New York City.

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.

113th Annual Session, 1878-'79.

☞ The Higher plan of Medical Education is now enforced, requiring attendance upon three graded courses of five months each. Didactic instruction is increased. Bedside instruction of each student in Physical Diagnosis, Clinical Medicine and Surgery, and Gynæcology is provided. The clinical and laboratory facilities are unrivalled in America. Pharmacy, Analytical and Medical Chemistry, Histology, Normal and Morbid Anatomy, and Operative Surgery are taught practically.

A Dental Department has recently been instituted.

For particulars, see ANNOUNCEMENT, for which address

JAMES TYSON, M. D., Secretary,

10-15 **P. O. Box 2838, Philadelphia, Pa.**

THE WOMAN'S MEDICAL COLLEGE OF CHICAGO.

No. 337-9 South Lincoln Street, opposite the New County Hospital.

SESSION OF 1877–8.

Faculty.

W. GODFREY DYAS, M. D., F. R. C. S.,
Professor Emeritus of Theory and Practice of Medicine.
G. C. PAOLI, M. D.,
Professor Emeritus of Materia Medica and Therapeutics.
WM. H. BYFORD, A. M., M. D., PRESIDENT,
Professor of Obsteterics.
T. DAVIS FITCH, M. D., SECRETARY.
296 W. MONROE STREET, Professor of Gynecology.
CHAS. WARRINGTON EARLE, M. D.
TREASURER, Professor of Diseases of Children.
ISAAC N. DANFORTH, M. D.
Professor of Pathology.
JOHN E. OWENS, M. D.,
Professor of Surgery.

WM. E. QUINE, M. D.,
Professor of Theory and Practice of Medicine.
DANIEL R. BROWER, M. D.,
Professor Materia Medica, Therapeutics and Nervous Diseases.
SARAH HACKETT STEPHENSON, M. D.
COR. SEC'Y, 125 STATE STREET, Professor of Pysiology.
DAVID W. GRAHAM, A. M., M. D.,
Professor and Demonstrator of Anatomy.
PLYM. S. HAYES, M. D.,
Professor of Chemistry.
WM T. MAYNARD, M, D.
Clinical Lecturer on Dermatology.
WM. T. MONTGOMERY, M. D.
Clinical Lecturer on Opthalmology and Otology

The Regular Winter Term will commence Oct. 2d, 1877, and will continue twenty-one weeks The Spring Term commences the first Tuesday in April and continue twelve weeks. THE NEW COLLEGE BUILDING DIRECTLY OPPOSITE the new County Hospital, and WITHIN A SINGLE BLOCK of the Central Free Dispensary, brings the unlimited advantages of both these institutions within easy reach of our students. It is confidently believed that this Institution offers to women desiring a medical education, the best possible clinical advantages. For Catalogue or further information apply to the secretaries.

BELLEVUE HOSPITAL MEDICAL COLLEGE,

CITY OF NEW YORK

MEMBER OF THE AMERICAN MEDICAL COLLEGE ASSOCIATION.

SESSIONS OF 1878-'79.

THE COLLEGIATE YEAR in this Institution embraces a preliminary Autumnal Term the Regular Winter Session, and a Spring Session.

THE PRELIMINARY AUTUMNAL TERM for 1878–1879 will open on Wednesday, September 18, 1878, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures upon special subjects, and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students expecting to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will begin on Wednesday, October 2, 1878, and end about the 1st of March, 1879.

FACULTY.

ISAAC E. TAYLOR, M. D.,
Emeritus Professor of Obstetrics and Diseases of Women, and President of the Faculty.

JAMES R. WOOD, M. D., LL. D.,
Emeritus Professor of Surgery.

FORDYCE BARKER, M. D.,
Professor of Clinical Midwifery and Diseases of Women.

AUSTIN FLINT, M. D.,
Professor of the Principles and Practice of Medicine and Clinical Medicine.

W. H. VAN BUREN, M. D.,
Professor of Principles and Practice of Surgery, Diseases of Genito-Urinary System, and Clinical Surgery.

LEWIS A. SAYRE, M. D.,
Professor of Orthopedic Surgery and Clinical Surgery.

ALEXANDER B. MOTT, M. D.,
Professor of Clinical and Operative Surgery.

WILLIAM T. LUSK, M. D.,
Professor of Obstetrics and Diseases of Women and Children, and Clinical Midwifery.

WILLIAM M. POLK, M. D.,
Professor of Materia Medica and Therapeutics, and Clinical Medicine.

AUSTIN FLINT, Jr., M. D.,
Professor of Physiology and Physiological Anatomy, and Secretary of the Faculty.

JOSEPH D. BRYANT, M. D.,
Professor of General, Descriptive and Surgical Anatomy.

R. OGDEN DOREMUS, M. D., LL. D.,
Professor of Chemistry and Toxicology.

EDWARD G. JANEWAY, M. D.,
Professor of Pathological Anatomy and Histology, Diseases of the Nervous System, and Clinical Medicine.

PROFESSORS OF SPECIAL DEPARTMENTS, Etc.

HENRY D. NOYES, M. D.,
Professor of Ophthalmology and Otology.

JOHN P. GRAY, M. D., LL. D.,
Professor of Psychological Medicine and Medical Jurisprudence.

ERSKINE MASON, M.D.,
Clinical Professor of Surgery.

EDWIN L. KEYES, M. D.,
Professor of Dermatology, and Adjunct to the Chair of Principles of Surgery.

J. LEWIS SMITH, M. D.,
Clinical Professor of Diseases of Children.

LEROY MILTON YALE, M. D.,
Lecturer Adjunct upon Orthopedic Surgery.

A distinctive feature of the method of instruction in this College is the union of clinical and didactic teaching. All the lectures are given within the Hospital grounds. During the regular Winter Session, in addition to four didactic lectures on every week day except Saturday, two or three hours are daily allotted to clinical instruction.

The Spring Session consists chiefly of Recitations from Text Books. This term continues from the first of March until the first of June. During this session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Regular clinics are also given in the Hospital and in the College building.

FEES FOR THE REGULAR SESSION.

Fees for Tickets to all the Lectures during the Preliminary and Regular Term, including Clinical Lecture	$140 00
Matriculation Fee	5 00
Demonstrator's Ticket (including material for dissection)	10 00
Graduation Fee	30 00

FEES FOR THE SPRING SESSION.

Matriculation (Ticket good for the following winter)	$ 5 00
Recitations, Clinics, and Lectures	35 00
Dissection (Ticket good for the following Winter)	10 00

Students who have attended two full Winter courses of lectures may be examined at the end of their second course upon Materia Medica, Physiology, Anatomy and Chemistry, and, if successful, they will be examined at the end of their third course upon Practice of Medicine, Surgery, and Obstetrics only.

For the Annual Circular and Catalogue, giving regulations for graduation and other information, address Prof. Austin Flint, Jr., Secretary, Bellevue Hospital Medical College.

Starling Medical College,

COLUMBUS, OHIO.

FACULTY.

Francis Carter, M. D., Starling Loving, M. D., J. H. Pooley, M. D., H. G. Landis, A. M., M. D., John M. Wheaton, M. D., E. B. Fullerton, M. D., W. J. Conklin, M. D., Otto Frankenberg, M. D., Alexander Dunlap, M. D., T. R. Pooley, M. D., Hon. J. W. Baldwin, M. A., T. C. Hoover, M. D., C. C. Howard, A. B., R. B. Cameron, M. D.

Thirty-second Annul Session begins October 2d, 1878. Preliminary Course September 4th. (No extra charge.)

Four clinics a week. St. Francis Hospital always open to the students. (No fee for Hospital attendance.)

This excellent Institution, one of the oldest in the State, offers superior advantages to the Student of Medicine. With the coming session, the three years' Graded Course (optional with the student) will be introduced. Nowhere in this country can the Student find better facilities for acquiring a thorough Medical Education.

FEES.

Matriculation	$ 5 00
Professor's Tickets	40 00
Graduation Fee	25 00
Demonstrator's Ticket	5 00

Every assistance will be rendered Students in procuring suitable board, which can be had at from $3.00 to $5.00 per week. Send for a circular. Address,

F. CARTER, M. D., Dean,
181 East State Street.

Or, H. G. LANDIS, M. D.,
Fourth and State Streets.

Be-15-r

Cincinnati College of Medicine and Surgery.

THE next Regular Session opens October 2d, 1878, and continues until the latter part of February, 1879. There will be a Preliminary Course, commencing September 4th, 1878. Students are urged to attend this course, as special instruction is given on subjects which cannot be so fully treated during the regular session.

FACULTY.

R. C. STOCKTON REED, M. D.,
Professor of Materia Medica and Therapeutics.
D. D. BRAMBLE, M. D., DEAN,
Professor of Principles and Practice of Surgery and Clinical Surgery.
ABIJAH J. MILES, M. D., SECRETARY,
Professor of Diseases of Women and Children, and Clinical Gynæcology.
JOHN A. THACKER, M. D.,
Professor of Principles and Practice of Medicine and Clinical Medicine.
JACOB THRUSH, M. D.,
Professor of Obstetrics and Clinical Professor of Dermatology.
CHAUNCEY R. STUNTZ, A. M., M. D.,
Professor of Chemistry and Toxicology.
WILLIAM ADAM ROTHAKER, M. D.,
Professor of Anatomy and Clinical Professor of Venereal Diseases.
JOSEPH AUB, M. D.,
Professor of Diseases of Eye and Ear and Clinical Ophthalmology and Otology.
ASA BRAINARD ISHAM, M. D., Professor of Physiology.
JOSHUA W. UNDERHILL, M. D., Lecturer on Medical Jurisprudence.
BERNARD TAUBER, M. D., Lecturer on Laryngology.
W. A. ROTHACKER, M. D., Demonstrator of Anatomy.

THEODORE MARTIN WITTKAMP, M. D., Asst. to Chair of Diseases of Women and Children.
JOHN M. SHALLER, M. D., Assistant to Chair of Principles and Practice of Medicine.
EDWIN WALKER ELDRIDGE, Assistant to Chair of Obstetrics and Dermatology.
SAMUEL C. CHORLTON, M. D., Assistant to Chair of Surgery.
CONRAD STUMPMEYER, Janitor College Building.

FEES.

General Ticket	$40 00	Demonstrator's Ticket, (includ'g material)	$10 00
Matriculation Ticket	5 00	Hospital Ticket	5 00
Graduation Fee	$25 00.		

For further information address D. D. BRAMBLE, M. D., DEAN, or A. J. MILES, M. D., SEC'Y.
Be.K.R. 169 Broadway, Cincinnati. 296 Vine St., Cincinnati.

COLLEGE OF PHYSICIANS AND SURGEONS

(Medical Department of Columbia College,)

COR. OF FOURTH AVENUE AND 23rd ST., NEW YORK CITY.

SEVENTY-SECOND SESSION, 1878-'79.

FACULTY OF MEDICINE.

ALONZO CLARK, M. D., President, and Professor of Pathology and Practical Medicine.
WILLARD PARKER, M. D., Professor of Clinical Surgery.
JOHN C. DALTON, M. D., Professor of Physiology and Hygiene.
THOMAS M. MARKOE, M.D., Professor of Surgery.
T. GAILLARD THOMAS, M. D., Professor of Obstetrics and the Diseases of Women and Children.
JOHN T. METCALFE, M. D., Emeritus Professor of Clinical Medicine.
HENRY B. SANDS, M. D., Professor of Anatomy.
JAMES W. McLANE, M. D., Adjunct Professor of Obstetrics and Diseases of Women and Children.
THOMAS T. SABINE, M. D., Adjunct Professor of Anatomy.
CHARLES F. CHANDLER, Ph. D., Professor of Chemistry and Medical Jurisprudence.
EDWARD CURTIS, M. D., Professor of Materia Medica and Therapeutics.
FRANCIS DELAFIELD, M. D., Adjunct Professor of Pathology and Practical Medicine.
JOHN G. CURTIS, M. D., Adjunct Professor of Physiology and Hygiene; Secretary of the Faculty.
WM. DETMOLD, M. D., Emeritus Professor of Military and Clinical Surgery.
WILLIAM H. DRAPER, M. D., Clinical Professor of Diseases of the Skin.
CORNELIUS R. AGNEW, M. D., Clinical Prof. of Diseases of the Eye and Ear.
ABRAHAM JACOBI, M. D., Clinical Professor of Diseases of Children.
FESSENDEN N. OTIS, M. D., Clinical Professor of Venereal Diseases.
EDWARD C. SEGUIN, M. D., Clinical Professor of Diseases of the Mind and Nervous System.
GEO. M. LEFFERTS, M. D., Clinical Professor of Laringoscopy and Diseases of the Throat.
CHAS. McBURNEY, M. D., Demonstrator of Anatomy.
CHAS. KELSEY, M. D., Assistant Demonstrator of Anatomy.

FACULTY OF THE SPRING SESSION.

JAMES L. LITTLE, M. D., Lecturer on Operative Surgery and Surgical Dressings.
GEORGE G. WHEELOCK, M. D., Lecturer on Physical Diagnosis.
ROBERT F. WEIR, M. D., Lecturer on Diseases of Genito-Urinary Organs.
MATTHEW D. MANN, M. D., Lecturer on Clinical Microscopy.
H. KNAPP, M. D., Lecturer on Diseases of the Eye and Ear.
T. A. McBRIDE, M. D., Lecturer on Symptomatology.

The COLLEGIATE YEAR embraces a special *Spring* aud a regular *Winter* Session, attendance at the latter only being required for the graduating course. The Spring Session begins near the middle of March, and continues till June 1st. *The Regular Winter Session* for 1878-'79 begins October 1st, and continues till March.

TUITION is by the following methods:

I. DIDACTIC LECTURES.—During the *Winter Session*, from five to six lectures are given daily by the Faculty. Attendance obligatory. During the *Spring Session*, two lectures are given daily by the Faculfy of the Spring Session. Attendance optional.

II. CLINICAL TEACHING. Ten clinics, covering all departments of medicine and surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue, Charity, New York, and Roosevelt Hospitals, the New York Eye and Ear Infirmary, &c.), as a regular feature of the college curriculum. Attendance optional.

III. RECITATIONS are held daily throughout both sessions. Attendance optional.

IV. PERSONAL INSTRUCTION.—Cases of *Obstetrics* are furnished without charge. Personal instruction is given in *Practical Anatomy*, *Operative Surgery*, *Minor Surgery*, *Physical Diagnosis*, *Ophthalmology*, *Otology*, and *Laryngoscopy*. Attendance optional, except upon Practical Anatomy.

EXPENSES.—The *necessary* expenses are a yearly matriculation-fee ($5, good for a collegiate year), the fees for the lectures of the Winter Session ($20 for the course on each branch, or $140 for the entire curriculum), the Practical Anatomy fee ($10, and a small charge for material), and a Graduation Fee of $30. The graduating course requires three years' study, attendance upon two full winter courses of lectures, and upon one course of Practical Anatomy. Remissions and reductions of lecture fees are made to graduates and students who have already attended two full courses. *All fees are payable in advance.* *Board* can be had for from $6 to $9 a week, and the Clerk of the College will aid students in obtaining it.

For the Annual Catalogue and Announcement, or for further information, address JOHN G. CURTIS, M. D., Secretary of the Faculty, College of Physicians and Surgeons, corner of Twenty-Third Street and Fourth Avenue, New York.

DETROIT MEDICAL COLLEGE.

SESSIONS OF 1878-79.

FACULTY.

PRELIMINARY AND REGULAR SESSIONS.

EDWARD W. JENKS, M. D., President,
Professor of Medical and Surgical Diseases of Women, and Obstetrics.

GEORGE P. ANDREWS, M. D.,
Professor of Principles and Practice of Medicine and Clinical Medicine.

ALBERT B. LYONS, M. D.,
Professor of Chemistry and Toxicology.

THEODORE A. McGRAW, M. D., Treasurer,
Professor of Principles and Practice of Surgery and Clinical Surgery.

C. B. GILBERT, M. D.,
Professor of Materia Medica, Therapeutics, and Clinical Diseases of Children.

N. W. WEBBER, M. D.,
Professor of General and Descriptive Anatomy and Clinical Surgery.

LEARTUS CONNOR, M. D., Secretary,
Professor of Physiology and Lecturer on Diseases of the Eye and Ear.

RECITATION SESSION.

H. O. WALKER, M. D.,
Lecturer on Genito-Urinary System and Rectum.

DANIEL LAFERTE, M. D.,
(Demonstrator of Anatomy) and Lecturer on Orthopedic Surgery and Tumors.

J. G. JOHNSON, M. D.,
Lecturer on Diseases of Mind and Nervous System.

J. H. CARSTENS, M. D.,
Lecturer on Differential Diagnosis.

E. L. SHURLEY, M. D.,
Lecturer on Diseases of Throat and Lungs.

F. A. SPALDING, M. D.,
Lecturer on Diseases of Skin.

C. C. YEMANS, M. D.,
Lecturer on Chemistry.

JAMES D. MUNSON, M. D.,
Demonstrator of Practical Physiology.

E. A. CHAPOTON, M. D.,
Demonstrator of Practical Microscopy.

The Collegiate Year is divided into three sessions.

PRELIMINARY SESSION opens Wednesday, September 4th, 1878, and continues one month. The Clinics are held and the Lectures delivered by the Professors of the regular Faculty, and in the same order and frequency as during the Winter Term. Opportunity is given to dissect or work in the Chemical and Physiological Laboratories.

The REGULAR SESSION opens Wednesday, October 2d, 1878, and continues five months. During this term all the branches of *General Medicine* and *Surgery*, both scientific and practical, are taught with care and thoroughness. All students are daily examined on the subjects of the lectures and on their dissecting and laboratory work.

Senior students have *daily practice* in the *art of examining patients*, in forming their own diagnosis, prognosis and treatment. As this is done under the direction of the professor holding each clinic, and in the presence of the class, it constitutes an invaluable course of training.

The RECITATION SESSION begins second Wednesday in March, 1879, and continues four months. Daily during this term there will be held a lecture, recitation and one or two clinics. The lectures will be upon special subjects of medical or surgical interest.

The recitations will embrace the general subjects of the Regular Session, viz., Anatomy, Surgery, Midwifery, Diseases of Women, Physiology, Practice of Medicine, Materia Medica and Chemistry.

Though the Recitation and Preliminary Sessions are optional, it is hoped that all who can, will avail themselves of their manifest advantages in supplementing the regular winter course.

Three Hospitals—Harper's, St. Mary's and St. Luke's—with two large free dispensaries, afford an abundance of clinical material for illustrative and practical teaching.

All lectures are delivered on Hospital grounds. The *peculiar feature* of this school is the *intimate union* between its *laboratory*, *clinical* and *didactic* instruction.

FEES.—For Preliminary and Regular Sessions: Matriculation, $5. Hospital Fees, $10. Lecture Fees, $40. Graduation, $25. Lecture Fees to third course students, $25.

For the Recitation Term the Lecture Fees are $10, to those who attend the other courses. All others are required to matriculate and take out the Hospital tickets.

All fees payable in advance to the *Secretary*.

Board and Rooms can be obtained at low rates—according to accommodations—from $3 to $5 per week. Announcement and Catalogue, or any further information which may be desired, can be promptly obtained by addressing

LEARTUS CONNOR, M. D., SECRETARY,

Bb-15-R 92 Cass Street, Detroit.

HARVARD UNIVERSITY.

MEDICAL DEPARTMENT, BOSTON, MASS.

NINETY-FIFTH ANNUAL ANNOUNCEMENT (1878–'79.)

FACULTY OF MEDICINE.

CHARLES W. ELIOT, LL. D., *President.*
CALVIN ELLIS, M. D., *Prof. of Clinical Medicine, Dean.*
JOHN B. S. JACKSON, M. D., *Prof. of Pathological Anatomy.*
OLIVER W. HOLMES, M. D., *Prof. of Anatomy.*
HENRY J. BIGELOW, M. D., *Prof. of Surgery.*
FRANCIS MINOT, M. D., *Hersey Prof. of the Theory and Practice of Medicine.*
JOHN P. REYNOLDS, M. D., *Prof. of Obstetrics.*
HENRY W. WILLIAMS, M. D., *Prof. of Ophthalmology.*
DAVID W. CHEEVER, M. D., *Prof. of Clinical Surgery.*
JAMES C. WHITE, M. D., *Prof. of Dermatology.*
ROBERT T. EDES, M. D., *Prof. of Materia Medica.*
HENRY P. BOWDITCH, M. D., *Prof. of Physiology.*
CHARLES B. PORTER, M. D., *Demonstrator of Anatomy, and Instructor in Surgery.*
FREDERICK I. KNIGHT, M. D., *Instructor in Percussion, Auscultation, and Laryngoscopy.*
J. COLLINS WARREN, M. D., *Instructor in Surgery.*
REGINALD H. FITZ, M. D., *Assistant Prof. of Pathological Anatomy.*
WILLIAM L. RICHARDSON, M. D., *Instructor in Obstetrics.*
THOMAS DWIGHT, M. D., *Instructor in Histology.*
EDWARD S. WOOD, M. D., *Prof. of Chemistry.*
HENRY H. A. BEACH, M. D., *Assistant Demonstrator of Anatomy.*
WILLIAM H. BAKER, M. D., *Instructor in Gynæcology.*
WILLIAM B. HILLS, M. D., *Instructor in Chemistry.*

OTHER INSTRUCTORS.

GEORGE H. F. MARKOE, *Instructor in Materia Medica.*
FRANK W. DRAPER, M. D., } *Lecturers on*
CHARLES F. FOLSOM, M. D., } *Hygiene.*
HENRY P. QUINCY, M. D., *Assistant in Histology.*
EDWARD N. WHITTIER, M. D., *Assistane in Clinical Medicine.*
GEORGE M. GARLAND, M. D., *Assistant in Physiology.*

The following gentlemen will give Special Clinical Instruction:

FRANCIS B. GREENOUGH, M. D., and EDWARD WIGGLESWORTH, M. D., *in Syphilis.*
JOHN O. GREEN, M. D., and CLARENCE J. BLAKE, M. D., *in Otology.*
CHARLES P. PUTNAM, M. D., and JOSEPH P. OLIVER, M, D., *in Diseases of Children.*
SAMUEL G. WEBBER, M D., and JAMES J. PUTNAM, M. D., *in Diseases of the Nervous System.*

Persons who hold no degree in arts or science must pass an *examination for admission* to this School, in Latin, in the elements of Physics, and in English. French or German will be accepted instead of Latin. The admission examination will be held June 24th, both at Boston and at Cincinnati; on September 23d, at Boston only.

Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. The year begins Sept. 26, 1878, and ends on the last Wednesday in June, 1879. It is divided into two equal terms, either of which is more than equivalent to the former "Winter Session," as regards the amount and character of the instruction. The course of instruction has been greatly enlarged, so as to extend over three years, and has been so arranged as to carry the student progressively and systematically from one subject to another in a just and natural order. In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory work is largely substituted for, or added to, the usual methods of instruction.

Instead of the customary oral examination for the degree of Doctor of Medicine, at the end of the three years' period of study, a series of written examinations on all the main subjects of medical instruction is held at the end of each year; and every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction during his period of study.

DIVISION OF STUDIES.

For the First Year.—Anatomy, Physiology, and General Chemistry.

For the Second Year.—Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery.

For the Third Year.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

Students are divided into three classes, according to their time of study and proficiency. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the second or third year's class must pass an examination in the branches already pursued by the class to which they seek admission. The examinations are held in the following order:—

At the end of the first year—Anatomy, Physiology and General Chemistry.

End of second year—Medical Chemistry, Materia Medica, and Pathological Anatomy.

End of third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

Examinations are also held before the opening of the School, beginning September 23d

REQUIREMENTS FOR A DEGREE.—Every candidate must be twenty-one years of age; must have studied medicine three full years, have spent at least one continuous year at this School, have passed the required examinations, and have presented a thesis.

COURSE FOR GRADUATES.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies, in such subjects as may specially interest them, the Faculty has established a course which comprises the following branches: Histology; Physiology; Medical Chemistry; Pathological Anatomy; Surgery; Auscultation, Percussion, and Laryngoscopy; Ophthalmology; Dermatology; Syphilis; Psychological Medicine; Otology; Electro-therapeutics; Gynæcology; and Obstetrics. On payment of the full fee the privilege of attending any of the other exercises of the Medical School, the use of the laboratories and library, and all other rights accorded by the University will be granted. Single branches may also be pursued. Graduates of other Medical Schools who may desire to obtain the degree of M. D. at this University, will be admitted to examination for this degree after a year's study in the Graduates' Course. Examination on entrance not required.

FEES.—For Matriculation, $5; for the Year, $200; for one Term alone, $120; for Graduation, $30. For Graduates' Course, the fee for one year is $200; for one Term, $120; and for single courses such fees as are specified in the Catalogue. Payment in advance.

Members of any one department of Harvard University have a right to attend lectures and recitations in any other department without paying additional fees.

For further information, or Catalogue, address DR. R. H. FITZ, *Sec'y*, 108 Boylston St., Boston, Mass.

8–15

S. H. KENNEDY'S

Concentrated Extract of Pinus Canadensis.

As an officinal remedy, this article has received the endorsement of the highest medical authorities, and been extensively used in their practice since its first manufacture by Mr. S. H. Kennedy.

DR. J. MARION SIMS thus writes of it:

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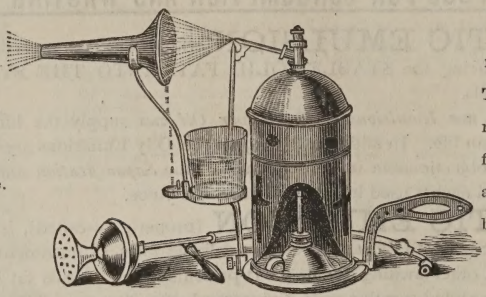

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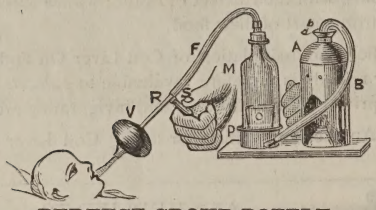

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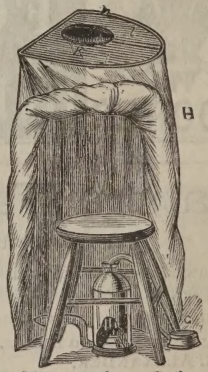

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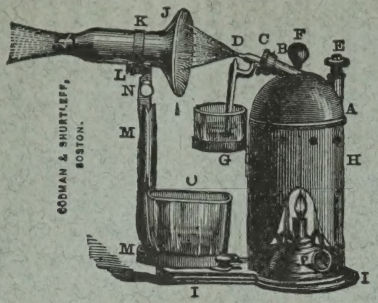

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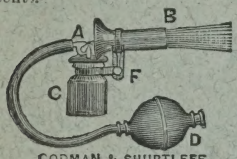

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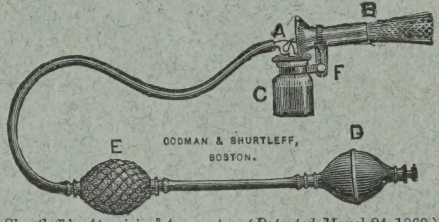

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